

Author Index / Index des auteurs

- AbouHaidar, M.G.**
The structure of the 5' and 3' ends of clover yellow mosaic virus RNA
MOUNIR G. ABOUHAI DAR 151
- Abraham, T.K.**
Induction of cellulase in *Myceliophthora thermophila* D-14
SRIBER SEN, T.K. ABRAHAM, and S.L. CHAKRABARTY 1258
- Adachi, T.**
Moderately large plasmids of *Rhizobium meliloti*
T. ADACHI, I. HOOPER, and V.N. IYER 1601
- Adamkiewicz, V.W.**
Magnetic stimulation of polysaccharide accumulation in cultures of *Streptococcus mutans*
VINCENT W. ADAMKIEWICZ and DENIS R. PILON 464
- Adams, P.B.**
Improved media for growth and sporulation of *Sporidesmium sclerotivorum*
W.A. AYERS and P.B. ADAMS 325
- Ahring, B.K.**
An improved method for measuring H₂ - CO₂ uptake during growth of methanogenic bacteria
BIRGITTE KIAER AHRING and PETER WESTERMANN 1218
- Ainsworth, T.**
A lipopolysaccharide-specific bacteriophage for *Aeromonas salmonicida*
E.E. ISHIGURO, TERESA AINSWORTH, D.H. SHAW, W.W. KAY, and T.J. TRUST 1458
- Akhtar, M.W.**
Effect of triglycerides on the production of lipids and lipase by *Mucor hiemalis*
M. WAHEED AKHTAR, A. QAYYUM MIRZA, M. NADEEM NAWAZISH, and M.I.D. CHUGHTAI 664
- Alexander, S.A.**
The initiation and growth of bacterial spinae
K.B. EASTERBROOK and S.A. ALEXANDER 476
- Allen, G.C.**
Anaerobic nitrate-dependent chemolithotrophic growth by *Rhizobium japonicum*
JOHN L. NEAL, GEORGE C. ALLEN, RONALD D. MORSE, and DALE D. WOLF 316
- Aly, R.**
Competitive adherence as a mechanism of bacterial interference
DEBRA JAN BIBEL, RAZA ALY, CHARLENE BAYLES, WALTER G. STRAUSS, HENRY R. SHINEFIELD, and HOWARD I. MAIBACH 700
- Amaral, D.**
Release of protoplasts from the galactose oxidase producing mold, *Dactylium dendroides*
DÉA AMARAL, DOROTY KUBICKI, and HECTOR F. TERNZI 763
- Amer, H.A.**
Response of maize plants to inoculation with azospirilla and (or) straw amendment in Egypt
NABIL A. HEGAZI, MOHAMED MONIB, HUSSEIN A. AMER, and EL-SAYED SHOKR 888
- Anderson, J.B.**
Determination of nuclear DNA content in fungi using mithramycin: vegetative diploidy in *Armillaria mellea* confirmed
A.L. FRANKLIN, W.G. FILION, and J.B. ANDERSON 1179
- Anderson, P.J.**
Amino acid composition of proteins in halophilic phototrophic bacteria of the genus *Ectothiorhodospira*
JOHANNES F. IMHOFF, DONN J. KUSHNER, and PETER J. ANDERSON 1675
- Andral, L.**
Studies on pathogenic, immunogenic, and protective efficiency of fox rabies virus before and after adaptation to cell culture: application to vaccination against rabies
J. BLANCOU, M.F.A. AUBERT, and L. ANDRAL 77
- Antai, S.P.**
Degradation of phenol by *Streptomyces setonii*
SYLVESTER P. ANTAI and DON L. CRAWFORD 142
- Antón, D.N.**
Isolation of round-cell mutants of *Salmonella typhimurium*
D.N. ANTÓN, A.T. DE MICHELI, and A.M. PALERMO 170
- Arnold, M.T.**
Stabilizing effect of acetate salts and HCO₃⁻ in digestors receiving high levels of glucose
J.E. ROBBINS, M.T. ARNOLD, J.E. WEIEL, and E.A. RUNQUIST 1405
- Arora, D.K.**
Bacterial chemotaxis to fungal propagules *in vitro* and in soil
D.K. ARORA, A.B. FILONOW, and J.L. LOCKWOOD 1104

- Exudation from ^{14}C -labeled fungal propagules in the presence of specific microorganisms
D.K. ARORA, A.B. FILONOW, and J.L. LOCKWOOD 1487
- Ashton, F.E.**
Serotypes of *Neisseria meningitidis* associated with an increased incidence of meningitis cases in the Hamilton area, Ontario, during 1978 and 1979
FRASER E. ASHTON, J. ALAN RYAN, COLINA JONES, BERNARD R. BRODEUR, and BENITO B. DIENA 129
- Atlas, R.M.**
Characteristics and diversity of subarctic marine oligotrophic, stenoheterotrophic, and euryheterotrophic bacterial populations
A. HOROWITZ, M.I. KRICHEVSKY, and R.M. ATLAS 527
- Aubert, M.F.A.**
Studies on pathogenic, immunogenic, and protective efficiency of fox rabies virus before and after adaptation to cell culture: application to vaccination against rabies
J. BLANCOU, M.F.A. AUBERT, and L. ANDRAL 77
- Ayache, R.**
A survey of enteric viruses in domestic sewage
PIERRE PAYMENT, REDA AYACHE, and MICHEL TRUDEL 111
- Ayers, W.A.**
Improved media for growth and sporulation of *Sporidesmium sclerotivorum*
W.A. AYERS and P.B. ADAMS 325
- Bååth, E.**
Decrease in soil microbial activity and biomasses owing to nitrogen amendments
B. SÖDERSTRÖM, E. BÅÅTH, and B. LUNDGREN 1500
- Bacon-Hill, P.**
Characterization of N_2 -fixing bacteria associated with sweet potato roots
WALTER A. HILL, PANSY BACON-HILL, STAFFORD M. CROSSMAN, and CLAUZELL STEVENS 860
- Baharaeen, S.**
Complementary DNA - 25S ribosomal RNA hybridization: an improved method for phylogenetic studies
SIYASH BAHARAEEN, ULRICH MELCHER, and HELEN S. VISHNIAC 546
- Balandreau, J.**
Consensus paper: Microbiology of the association
J. BALANDREAU 851
- Determination of the most frequent N_2 -fixing bacteria in a rice rhizosphere
R. BALLY, DANIELE THOMAS-BAUZON, TH. HEULIN, J. BALANDREAU, C. RICHARD, and J. DE LEY 881
- Baldani, J.I.**
Effects of *Azospirillum* inoculation on root infection and nitrogen incorporation in wheat
VERA L.D. BALDANI, JOSÉ IVO BALDANI, and JOHANNA DÖBEREINER 924
- Baldani, V.L.D.**
Effects of *Azospirillum* inoculation on root infection and nitrogen incorporation in wheat
VERA L.D. BALDANI, JOSÉ IVO BALDANI, and JOHANNA DÖBEREINER 924
- Baldigo, S.M.**
The detection of positive blood cultures in children using the acridine orange, gram, and methylene blue stains
LEONARD J. LA SCOLEA, JR. and SUSAN M. BALDIGO 729
- Bally, R.**
Determination of the most frequent N_2 -fixing bacteria in a rice rhizosphere
R. BALLY, DANIELE THOMAS-BAUZON, TH. HEULIN, J. BALANDREAU, C. RICHARD, and J. DE LEY 881
- Bardin, R.**
Growth of two serotypes of *Nitrobacter* in mixotrophic and chemoorganotrophic conditions
G. GAY, A. JOSSERAND, and R. BARDIN 394
- Barendregt, R.W.**
Nitrogen isotope fractionation during the reduction of NO_3^- to NH_4^+ by *Desulfovibrio* sp.
R.G.L. MCCREADY, W.D. GOULD, and R.W. BARENDREGT 231
- Barja, J.L.**
Mechanism of poliovirus inactivation by cell-free filtrates of marine bacteria
ALICIA E. TORANZO, JUAN L. BARJA, and FRANK M. HETRICK 1481
- Barker, J.S.F.**
Heterogeneity of the yeast flora in the breeding sites of cactophilic *Drosophila*
J.S.F. BARKER, G.L. TOLL, P.D. EAST, M. MIRANDA, and H.J. PHAFF 6
- Barker, K.A.**
The *in vitro* effect of *Actinobacillus actinomycetemcomitans* strain Y4 lipopolysaccharide on murine peritoneal macrophages
KATHLEEN A. BARKER and S.C. HOLT 1552
- Barnett, T.A.**
Characterization of a brown pigment from *Bacillus subtilis* cultures
TERRY A. BARNETT and JAMES H. HAGEMAN 309
- Production by *Bacillus subtilis* of brown sporulation-associated pigments
TERRY A. BARNETT, DAVID VALENZUELA, STEVEN RINER, and JAMES H. HAGEMAN 96
- Barraquio, W.L.**
Isolation and identification of N_2 -fixing *Pseudomonas* associated with wetland rice
W.L. BARRAQUIO, J.K. LADHA, and I. WATANABE 867
- Isolation and identification of nitrogen-fixing *Enterobacter cloacae* and *Klebsiella planticola* associated with rice plants
J.K. LADHA, W.L. BARRAQUIO, and I. WATANABE 1301

- Barridge, B.D.**
Studies on the mode of action of a bacteriocin produced by *Bacillus stearothermophilus*
J.D. FIKES, B.L. CRABTREE, and B.D. BARRIDGE 1576
- Barrows-Broadbudd, J.**
Characterization of *Arthrobacter* strains isolated from the pine environment that inhibit *Fusarium moniliforme* var. *subglutinans*, the causal agent of pine pitch canker
JANE BARROWS-BROADBUD, SHARI D. TEESLINK, and THOMAS J. KERR 1382
- Bass, J.A.**
Pseudomonas aeruginosa exoproducts as pulmonary virulence factors
HOWARD A. CASH, DAVID C. STRAUS, and JOSEPH A. BASS 448
- Battat, A.**
Production of antibacterial activities by two *Bacillariophyceae* grown in dialysis culture
SAM COOPER, AVIVA BATTAT, PIERRE MARSOT, and MICHEL SYLVESTRE 338
- Batzing, B.L.**
The effect of 2,4-dinitrophenol on glycerol-limited, biphasic growth of *Gluconobacter oxydans*
BARRY L. BATZING and RICHARD DELLORK 288
- Bayles, C.**
Competitive adherence as a mechanism of bacterial interference
DEBRA JAN BIBEL, RAZA ALY, CHARLENE BAYLES, WALTER G. STRAUSS, HENRY R. SHINEFIELD, and HOWARD I. MAIBACH 700
- Beaman, B.L.**
Pathogenic and virulence characterization of colonial mutants of *Nocardia asteroides* GUH-2
CYNTHIA A. VISTICA and BLAINE L. BEAMAN 1126
- Beary, D.A.**
Chemostat competition of alkaline phosphatase regulatory mutants in *Escherichia coli*
J.C. FRANCIS and D.A. BEARY 174
- Beaudet, R.**
Biochemical characterization of three mycobacterial ribosomal fractions
V. PORTELANCE and R. BEAUDET 185
- Beck, M.A.**
Detection of *Gardnerella vaginalis* on vaginal smears by immunofluorescence
RAUL J. CANO, MELINDA A. BECK, and DAVID V. GRADY 27
- Beeraj, R.D.**
Effect on nodulation by adaptation of *Rhizobium trifolii* to ammonium nitrate
R.D. BEERAJ 563
- Behki, R.M.**
Hydrogenase and ribulose-1,5-bisphosphate carboxylase activities of *Alcaligenes eutrophus* ATCC 17706 associated with an indigenous plasmid
R.M. BEHKI, G. SELVARAJ, and V.N. IYER 767
- Beilby, J.P.**
Effects of inhibitors on early protein, RNA, and lipid synthesis in germinating vesicular-arbuscular mycorrhizal fungal spores of *Glomus caledonium*
JOHN P. BEILBY 596
- Bell, R.G.**
A note on the identity and properties of the spoilage microflora of chub-packed luncheon meat stored at ambient temperature
R.G. BELL and KAREN M. DE LACY 1220
- Belunis, C.J.**
Phosphatidylglycerophosphate synthase activity in *Saccharomyces cerevisiae*
GEORGE M. CARMAN and CHARLES J. BELUNIS 1452
- Benemann, J.R.**
Nitrogenase inactivation by oxygen and enzyme turnover in *Anabaena cylindrica*
MARCIA A. MURRY, PATRICK C. HALLENBECK, DIANE ESTEVA, and JOHN R. BENEMANN 1286
- Berndt, W.B.**
Evaluation of competitive ability of *Rhizobium meliloti* strains for nodulation in alfalfa
E.A. PETERSON, J.C. SIROIS, W.B. BERNDT, and R.W. MILLER 541
- Beveridge, T.J.**
Erratum: Electron microscopy: its development and application to microbiology
S.C. HOLT and T.J. BEVERIDGE 1234
- Bezanson, B.**
The epidemic spread of *Salmonella typhimurium* phage type 10 in Canada (1970-1979)
R. KHAHRIA, B. BEZANSON, D. DUCK, and H. LIOR 1583
- Bhatti, A.R.**
Adenovirus core proteins
JOSEPH M. WEBER, GOVINDRANATHSING KHITTOO, and A. RASHID BHATTI 235
- Bibel, D.J.**
Competitive adherence as a mechanism of bacterial interference
DEBRA JAN BIBEL, RAZA ALY, CHARLENE BAYLES, WALTER G. STRAUSS, HENRY R. SHINEFIELD, and HOWARD I. MAIBACH 700
- Bisaillon, J.G.**
Mouse immune response to meningococcal antigens
V.V. MICUSAN, J.G. BISAILLON, B.G. SPARKES, M. DESROSIERS, G. MCSWEEN, and J.M. DUPUY 1323
- Blancou, J.**
Studies on pathogenic, immunogenic, and protective efficiency of fox rabies virus before and after adaptation to cell culture: application to vaccination against rabies
J. BLANCOU, M.F.A. AUBERT, and L. ANDRAL 77
- Blaser, M.J.**
Effect of incubation atmosphere and temperature on isolation of *Campylobacter jejuni* from human stools
WEN-LAN L. WANG, NANCY W. LUECHTEFELD, M.J. BLASER, and L.B. RELLER 468
- Block, T.M.-P.**
Characterization of mutants of herpes simplex viruses, types 1 and 2, that produce fragments of the thymidine kinase polypeptide
TIMOTHY M.-P. BLOCK, NANCY J. KUHN, KAREN A. KUSTAS, WILLIAM A. HELD, KENNETH GROSS, and ROBERT G. HUGHES, JR. 385

- Boa, J.M.**
Pullulan production from peat hydrolyzate
ANH LEDUY and JACQUES MIAN BOA 143
- Bochem, H.-P.**
Ultrastructural investigation of 12 *Methanosarcinae* and related species grown on methanol for occurrence of polyphosphatelike inclusions
P.A. SCHERER and H.-P. BOCHEM 1190
- Boddey, R.M.**
The use of the ^{15}N isotope dilution technique to estimate the contribution of associated biological nitrogen fixation to the nitrogen nutrition of *Paspalum notatum* cv. batatais
ROBERT M. BODDEY, PHILLIP M. CHALK, REYNALDO L. VICTORIA, EIICHI MATSUI, and JOHANNA DÖBEREINER 1036
- Bohlool, B.B.**
Characterization of *Rhizobium* sp. (*Cicer arietinum* L.) by immunofluorescence, immunodiffusion, and intrinsic antibiotic resistance
MARK T. KINGSLEY and B. BEN BOHLOOL 518
- Prevalence of *Azospirillum* spp. in the rhizosphere of tropical plants
RENEE M. KOSSLAK and B. BEN BOHLOOL 649
- Bono, J.J.**
Étude comparée de la dégradation de lignocelluloses par différentes souches de *Fomes annosus*
J.J. BONO, G. GAS, A.M. BOUDET, J. FAYRET et C. DELATOUR 1683
- Bose, H.R., Jr.**
Reticuloendotheliosis virus-transformed cells contain infectious and noninfectious proviral sequences in different chromosomes
JANE PFEIL FRANKLIN, HENRY R. BOSE, JR., and C.-YONG KANG 354
- Boudet, A.M.**
Étude comparée de la dégradation de lignocelluloses par différentes souches de *Fomes annosus*
J.J. BONO, G. GAS, A.M. BOUDET, J. FAYRET et C. DELATOUR 1683
- Bounaga, D.**
Actions antibiotique, mycolytique et parasitaire de deux actinomycètes envers *Fusarium oxysporum* f.sp. *albedinis* et autres formes spéciales
NASSERDINE SABAOU, NICOLE BOUNAGA et DJILALI BOUNAGA 194
- Bounaga, N.**
Actions antibiotique, mycolytique et parasitaire de deux actinomycètes envers *Fusarium oxysporum* f.sp. *albedinis* et autres formes spéciales
NASSERDINE SABAOU, NICOLE BOUNAGA et DJILALI BOUNAGA 194
- Bourgeau, G.**
Phenylacetic acid production by *Bacteroides gingivalis* from phenylalanine and phenylalanine-containing peptides
G. BOURGEOU and D. MAYRAND 1184
- Bradley, M.E.**
Lectin-binding activity and antibody response with *Pseudomonas paucimobilis* and *Flavobacterium multivorum*
DAVID L. SMALLEY and MARY E. BRADLEY 619
- Britz, M.L.**
Subcellular location of enzymes involved in leucine dissimilation in *Clostridium bifermentans*
MARGARET L. BRITZ and RUSSELL G. WILKINSON 441
- Subcellular location of enzymes involved in leucine dissimilation in *Clostridium bifermentans*
MARGARET L. BRITZ and RUSSELL G. WILKINSON 441
- Brodeur, B.R.**
Serotypes of *Neisseria meningitidis* associated with an increased incidence of meningitis cases in the Hamilton area, Ontario, during 1978 and 1979
FRASER E. ASHTON, J. ALAN RYAN, COLINA JONES, BERNARD R. BRODEUR, and BENITO B. DIENA 129
- Brown, M.F.**
A technique for preserving aerial fungal structures for scanning electron microscopy
E.J. KING and M.F. BROWN 653
- Bruce, D.L.**
The pH-dependent uptake of putrescine by *Pseudomonas acidovorans* and its incorporation into bacteriophage $\phi\text{W-14 DNA}$
D.L. BRUCE and R.A.J. WARREN 827
- Bryant, R.D.**
Isolation and characterization of a new acidophilic *Thiobacillus* species (*T. albertis*)
R.D. BRYANT, K.M. MCGROARTY, J.W. COSTERTON, and E.J. LAISHLEY 1159
- Buchanan, S.A.**
Use of ^{15}N enrichment of soil mineralizable N as a reference for isotope dilution measurements of biologically fixed nitrogen
P.M. CHALK, L.A. DOUGLAS, and S.A. BUCHANAN 1046
- Burgener, D.M.**
Collaborative study of the MPN, Anderson-Baird-Parker direct plating, and hydrophobic grid-membrane filter methods for the enumeration of *Escherichia coli* biotype 1 in foods
A.N. SHARPE, M.K. RAYMAN, D.M. BURGNER, D. CONLEY, A. LOIT, M. MILLING, P.I. PETERKIN, U. PURVIS, and S. MALCOLM 1247
- Burley, S.K.**
Structure of the regular surface layer of *Bacillus polymyxa*
S.K. BURLEY and R.G.E. MURRAY 775
- Burnham, J.S.**
Induced changes in the surface of *Neisseria gonorrhoeae*
E. PININA NORROD, JUDITH S. BURNHAM, ROBERT P. WILLIAMS, and MING-JER DING 584
- Burt, W.R.**
Studies on experimental murine histoplasmosis: host protection and cellular immunity
WAYNE R. BURT and RANDALL A. SMITH 102
- Cacciari, I.**
Respiratory activity, molar growth yields, and ATP content in an *Arthrobacter* sp. ammonium-limited chemostat culture
I. CACCIARI, D. LIPPI, S. IPPOLITI, and W. PIETROSANTI 1136
- Caldwell, D.R.**
Alpha-ketoglutarate metabolism by cytochrome-containing anaerobes
DANIEL R. CALDWELL and CAROLYN K. RASMUSSEN 790

- Calvert, O.H.**
Variability of bright, greenish-yellow fluorescent particles and aflatoxin in ground blends of *Zea mays*
O.H. CALVERT, E.B. LILLEHOJ, W.F. KWOLEK,
M.S. ZUBER, and E.L. LAUVER 558
- Campbell, R.**
Ultrastructural studies of *Gaeumannomyces graminis* in the water-films on wheat roots and the effect of clay on the interaction between this fungus and antagonistic bacteria
R. CAMPBELL 39
- Canevascini, G.**
Fractionation and identification of cellulases and other extracellular enzymes produced by *Sporotrichum* (*Chrysosporium*) *thermophile* during growth on cellulose or cellobiose
G. CANEVASCINI, D. FRACHEBOUD, and H. MEIER 1071
- Cano, R.J.**
Detection of *Gardnerella vaginalis* on vaginal smears by immunofluorescence
RAUL J. CANO, MELINDA A. BECK, and DAVID V. GRADY 27
- Carman, G.M.**
Phosphatidylglycerophosphate synthase activity in *Saccharomyces cerevisiae*
GEORGE M. CARMAN and CHARLES J. BELUNIS 1452
- Cash, H.A.**
Pseudomonas aeruginosa exoproducts as pulmonary virulence factors
HOWARD A. CASH, DAVID C. STRAUS, and JOSEPH A. BASS 448
- Castric, P.A.**
Hydrogen cyanide production by *Pseudomonas aeruginosa* at reduced oxygen levels
PETER A. CASTRIC 1344
- Chaffin, W.L.**
Cell wall proteins of *Candida albicans*
W.L.A. JEAN CHAFFIN and DOUGLAS M. STOCIO 1438
- Chakrabarty, S.L.**
Induction of cellulase in *Myceliophthora thermophila* D-14
SRIBER SEN, T.K. ABRAHAM, and S.L. CHAKRABARTY 1258
- Chalk, P.M.**
The use of the ^{15}N isotope dilution technique to estimate the contribution of associated biological nitrogen fixation to the nitrogen nutrition of *Paspalum notatum* cv. batatais
ROBERT M. BODDEY, PHILLIP M. CHALK,
REYNALDO L. VICTORIA, EIICHI MATSUI, and
JOHANNA DÖBEREINER 1036
- Use of ^{15}N enrichment of soil mineralizable N as a reference for isotope dilution measurements of biologically fixed nitrogen
P.M. CHALK, L.A. DOUGLAS, and S.A. BUCHANAN 1046
- Chapelle, S.**
Composés stéroïques des spores d'*Anthurus muellerianus* (Basidiomycète)
R. HERBER, J. VILLOUTREIX, P. GRANGER et S. CHAPELLE 602
- Influence de l'anaérobiose sur la composition en stéroïdes de *Mucor hiemalis*
R. HERBER, J. VILLOUTREIX, P. GRANGER et S. CHAPELLE 606
- Charoensiri, K.**
Reproduction of *Cephalosporium eichhorniae* as spheroplasts
KACHORN CHAROENSIRI and KENNETH F. GREGORY 1539
- Chatterjee, S.**
Nutritional requirements for chloramphenicol biosynthesis in *Streptomyces venezuelae*
S. CHATTERJEE, L.C. VINING, and D.W.S. WESTLAKE 247
- Chausseau, J.P.**
Unusual properties of a new division mutant of *Escherichia coli*
G.R. DRAPEAU, J.P. CHAUSSEAU, and F. GARIÉPY 694
- Chelala, C.A.**
Bactericidal photoproducts in medium containing riboflavin plus aromatic compounds and MnCl_2
CESAR A. CHELALA and PAUL MARGOLIN 670
- Cheney, R.**
Bacteriophages of *Halobacterium halobium*: virion DNAs and proteins
GEORGE F. ROHRMANN, RICHARD CHENEY, and
CRELLIN PAULING 627
- Chet, I.**
The regulation of sclerotium initiation in *Sclerotium rolfsii* by glucose and cyclic AMP
Y. HADAR, M. PINES, I. CHET, and Y. HENIS 21
- Ochratoxin production by *Aspergillus ochraceus* as affected by methionine and structurally related compounds
N. LISKER, N. PASTER, and I. CHET 536
- The possible role of some enzymes in sclerotia formation in *Aspergillus ochraceus*
NACHMAN PASTER and ILAN CHET 718
- The effect of sublethal heating on sclerotia of *Sclerotium rolfsii*
R. LIFSHTIZ, M. TABACHNIK, J. KATAN, and I. CHET 1607
- Chiew, Y.Y.**
An analysis of the metabolism and cell wall composition of *Candida albicans* during germ-tube formation
PATRICK A. SULLIVAN, CHIEW YOEK YIN,
CHRISTOPHER MOLLOY, MATTHEW D. TEMPLETON, and
MAXWELL G. SHEPHERD 1514
- Chughtai, M.I.D.**
Effect of triglycerides on the production of lipids and lipase by *Mucor hiemalis*
M. WAHEED AKHTAR, A. QAYYUM MIRZA,
M. NADEEM NAWAZISH, and M.I.D. CHUGHTAI 664
- Clover, D.O.**
Attachment of *Salmonella* to mammalian cells *in vitro*
CLIFFORD S. MINTZ, DEAN O. CLIVER, and R.H. DEIBEL 1731
- Conley, D.**
Collaborative study of the MPN, Anderson-Baird-Parker direct plating, and hydrophobic grid-membrane filter methods for the enumeration of *Escherichia coli* biotype 1 in foods
A.N. SHARPE, M.K. RAYMAN, D.M. BURGNER,
D. CONLEY, A. LOIT, M. MILLING, P.I. PETERKIN,
U. PURVIS, and S. MALCOLM 1247
- Cooper, S.**
Production of antibacterial activities by two *Bacillariophyceae* grown in dialysis culture
SAM COOPER, AVIVA BATTAT, PIERRE MARSOT, and
MICHEL SYLVESTRE 338

Corbell, L.B.

Natural immunity to murine gonococcal bacteremia: roles of complement, leucocytes, and sex
P.R. STREETER, A.C. WUNDERLICH, R.R. CORBEIL, and L.B. CORBEIL 331

Corbell, R.R.

Natural immunity to murine gonococcal bacteremia: roles of complement, leucocytes, and sex
P.R. STREETER, A.C. WUNDERLICH, R.R. CORBEIL, and L.B. CORBEIL 331

Coste, M.

Interaction *in vitro* entre l'association ampicilline-colistine et *Escherichia coli* résistant à l'ampicilline
M. COSTE et L. ESCOULA 1650

Costerton, J.W.

The effects of chlorinated municipal sewage and temperature on the abundance of bacteria in the Sheep River, Alberta
L.L. OSBORNE, R.W. DAVIES, R.M. VENTULLO, T.I. LADD, and J.W. COSTERTON 261

Isolation and characterization of a new acidophilic *Thiobacillus* species (*T. albertis*)

R.D. BRYANT, K.M. MCGROARTY, J.W. COSTERTON, and E.J. LAISHLEY 1159

Examination of immobilized fungal cells by phase-contrast and scanning electron microscopy

Y.M. DEO, J.W. COSTERTON, and G.M. GAUCHER 1642

Cotter, D.A.

The timing of ribonucleic acid synthesis during the germination of heat-activated *Dictyostelium discoideum* spores
JOHN E. HAMER and DAVID A. COTTER 1390

Coulton, J.W.

The outer membrane of *Haemophilus influenzae* type *b*: cell envelope associations of major proteins
J.W. COULTON and D.T.F. WAN 280

Coxson, D.S.

Nitrogenase activity during chinook snowmelt sequences by *Nostoc commune* in *Stipa-Bouteloua* grassland
D.S. COXSON and K.A. KERSHAW 938

Crabtree, B.L.

Studies on the mode of action of a bacteriocin produced by *Bacillus stearothermophilus*
J.D. FIKES, B.L. CRABTREE, and B.D. BARRIDGE 1576

Crawford, D.L.

Degradation of phenol by *Streptomyces setonii*
SYLVESTER P. ANTAI and DON L. CRAWFORD 142

Metabolism of cinnamic, *p*-coumaric, and ferulic acids by *Streptomyces setonii*

JOHN B. SUTHERLAND, DON L. CRAWFORD, and ANTHONY L. POMETTO III 1253

Crawford, R.L.

Effects of various physicochemical factors on microbial activity in peatlands: aerobic biodegradative processes
RICHARD T. WILLIAMS and RONALD L. CRAWFORD 1430

Cromack, K., Jr.

Dinitrogen fixation by a mature *Ceanothus velutinus* (Dougl.) stand in the Western Oregon Cascades
D.H. McNABB and K. CROMACK, JR. 1014

Crossman, S.M.

Characterization of N_2 -fixing bacteria associated with sweet potato roots
WALTER A. HILL, PANSY BACON-HILL, STAFFORD M. CROSSMAN, and CLAUZELL STEVENS 860

Currier, T.C.

Plasmids of *Pseudomonas syringae*: no evidence of a role in toxin production or pathogenicity
T.C. CURRIER and M.K. MORGAN 84

Danso, S.K.A.

The methodology of measurement of N_2 fixation by nonlegumes as inferred from field experiments with legumes
M. FRIED, S.K.A. DANSO, and F. ZAPATA 1053

Dart, P.J.

Factors affecting nitrogenase activity (C_2H_2 reduction) associated with sorghum and millet estimated using the soil core assay
S.P. WANI, P.J. DART, and M.N. UPADHYAYA 1063

Das, A.

Utilization of fructose by *Azospirillum brasilense*
AMARESH DAS and AJIT K. MISHRA 1213

Davidson, E.W.

Alkaline extraction of toxin from spores of the mosquito pathogen, *Bacillus sphaericus* strain 1593
ELIZABETH WEST DAVIDSON 271

Davies, R.W.

The effects of chlorinated municipal sewage and temperature on the abundance of bacteria in the Sheep River, Alberta
L.L. OSBORNE, R.W. DAVIES, R.M. VENTULLO, T.I. LADD, and J.W. COSTERTON 261

Davis, C.

Effects of NaCl on the uptake of α -[^{14}C]aminoisobutyric acid by the halotolerant bacterium *Halomonas elongata*
E.L. MARTIN, T. DURYEA-RICE, R.H. VREELAND, L. HILSABECK, and C. DAVIS 1424

Dawson, J.O.

Consensus paper: Dinitrogen fixation in forest ecosystems
JEFFREY O. DAWSON 979

Deibel, R.H.

Attachment of *Salmonella* to mammalian cells *in vitro*
CLIFFORD S. MINTZ, DEAN O. CLIVER, and R.H. DEIBEL 1731

De Lacy, K.M.

A note on the identity and properties of the spoilage microflora of chub-packed luncheon meat stored at ambient temperature
R.G. BELL and KAREN M. DE LACY 1220

Delatour, C.

Étude comparée de la dégradation de lignocelluloses par différentes souches de *Fomes annosus*
J.J. BONO, G. GAS, A.M. BOUDET, J. FAYRET et C. DELATOURE 1683

De Ley, J.

Determination of the most frequent N_2 -fixing bacteria in a rice rhizosphere
R. BALLY, DANIELLE THOMAS-BAUZON, TH. HEULIN, J. BALANDREAU, C. RICHARD, and J. DE LEY 881

- The significance of 3-ketolactose in the lactose catabolism by *Agrobacterium*
D. JANSSENS, K. KERSTERS, and J. DE LEY 1096
- Dellork, R.**
The effect of 2,4-dinitrophenol on glycerol-limited, biphasic growth of *Gluconobacter oxydans*
BARRY L. BATZING and RICHARD DELLORK 288
- Delwiche, E.A.**
An alternative pathway for 3-phosphoglycerate generation in *Veillonella*
J.J. PESTKA and E.A. DELWICHE 218
- Demain, A.L.**
Studies on the ring-cyclization and ring-expansion enzymes of β -lactam biosynthesis in *Cephalosporium acremonium*
JUTTA KUPKA, Y.-Q. SHEN, SAUL WOLFE, and ARNOLD L. DEMAIN 488
- De Micheli, A.T.**
Isolation of round-cell mutants of *Salmonella typhimurium*
D.N. ANTÓN, A.T. DE MICHELI, and A.M. PALERMO 170
- Deo, Y.M.**
Examination of immobilized fungal cells by phase-contrast and scanning electron microscopy
Y.M. DEO, J.W. COSTERTON, and G.M. GAUCHER 1642
- DeRepentigny, J.**
Use of rabbit mesentery in the evaluation of adherence of prototrophic and auxotrophic gonococcal strains
L.G. MATHIEU, J. DEREPENTIGNY, P.L. TURGEON, and T. GADBOIS 421
- Desrosiers, M.**
Mouse immune response to meningococcal antigens
V.V. MICUSAN, J.G. BISAILLON, B.G. SPARKES, M. DESROSIERS, G. MCSWEEN, and J.M. DUPUY 1323
- Prevention of the enhancing effect of mucin and iron in mouse meningococcal infection
J.M. DUPUY, B.G. SPARKES, M. DESROSIERS, E. SKAMENE, and V.V. MICUSAN 1671
- Diena, B.B.**
Serotypes of *Neisseria meningitidis* associated with an increased incidence of meningitis cases in the Hamilton area, Ontario, during 1978 and 1979
FRASER E. ASHTON, J. ALAN RYAN, COLINA JONES, BERNARD R. BRODEUR, and BENITO B. DIENA 129
- Ding, M.-J.**
Induced changes in the surface of *Neisseria gonorrhoeae*
E. PININA NORROD, JUDITH S. BURNHAM, ROBERT P. WILLIAMS, and MING-JER DING 584
- Diotte, M.P.**
Colony counting on hydrophobic grid-membrane filters
ANTHONY N. SHARPE, MARCEL P. DIOTTE, ISTVAN DUDAS, STEPHEN MALCOLM, and PEARL I. PETERKIN 797
- Djordjevic, M.**
Conservation of genetic information between different *Rhizobium* species
B.D.W. JARVIS, K.F. SCOTT, J.E. HUGHES, M. DJORDJEVIC, B.G. ROLFE, and J. SHINE 200
- Döbereiner, J.**
Consensus paper: Sites and processes of association between diazotrophs and grasses
D.G. PATRIQUIN, J. DÖBEREINER, and D.K. JAIN 900
- Effects of *Azospirillum* inoculation on root infection and nitrogen incorporation in wheat
VERA L.D. BALDANI, JOSÉ IVO BALDANI, and JOHANNA DÖBEREINER 924
- The use of the ^{15}N isotope dilution technique to estimate the contribution of associated biological nitrogen fixation to the nitrogen nutrition of *Paspalum notatum* cv. batatais
ROBERT M. BODDEY, PHILLIP M. CHALK, REYNALDO L. VICTORIA, EUCHI MATSUI, and JOHANNA DÖBEREINER 1036
- Dobos, P.**
The molecular biology of infectious pancreatic necrosis virus: a review
P. DOBOS and T.E. ROBERTS 377
- Dosch-Meier, D.**
Effect of rat polymorphonuclear leukocyte granule components on the growth and survival of *Pseudomonas aeruginosa* and *Salmonella typhimurium*
M.C. MODRZAKOWSKI, D. DOSCH-MEIER, and R.L. HODINKA 1339
- Douglas, L.A.**
Use of ^{15}N enrichment of soil mineralizable N as a reference for isotope dilution measurements of biologically fixed nitrogen
P.M. CHALK, L.A. DOUGLAS, and S.A. BUCHANAN 1046
- Drapeau, G.R.**
Unusual properties of a new division mutant of *Escherichia coli*
G.R. DRAPEAU, J.P. CHAUSSEAU, and F. GARIÉPY 694
- Drummond, L.**
The role of respiratory protection on increased survival of *Treponema pallidum* (Nichols) when cocultivated with mammalian cells *in vitro*
BRET STEINER, GRACE H.W. WONG, LINDA DRUMMOND, and STEPHEN GRAVES 1595
- Duck, D.**
The epidemic spread of *Salmonella typhimurium* phage type 10 in Canada (1970-1979)
R. KHAKHRIA, B. BEZANSON, D. DUCK, and H. LIOR 1583
- Dudas, I.**
Colony counting on hydrophobic grid-membrane filters
ANTHONY N. SHARPE, MARCEL P. DIOTTE, ISTVAN DUDAS, STEPHEN MALCOLM, and PEARL I. PETERKIN 797
- Dupuy, J.M.**
Mouse immune response to meningococcal antigens
V.V. MICUSAN, J.G. BISAILLON, B.G. SPARKES, M. DESROSIERS, G. MCSWEEN, and J.M. DUPUY 1323
- Prevention of the enhancing effect of mucin and iron in mouse meningococcal infection
J.M. DUPUY, B.G. SPARKES, M. DESROSIERS, E. SKAMENE, and V.V. MICUSAN 1671

- Duryea-Rice, T.**
Effects of NaCl on the uptake of α -[14 C]aminoisobutyric acid by the halotolerant bacterium *Halomonas elongata*
E.L. MARTIN, T. DURYEA-RICE, R.H. VREELAND,
L. HILSABECK, and C. DAVIS 1424
- East, P.D.**
Heterogeneity of the yeast flora in the breeding sites of cactophilic *Drosophila*
J.S.F. BARKER, G.L. TOLL, P.D. EAST, M. MIRANDA, and
H.J. PHAFF 6
- Easterbrook, K.B.**
The initiation and growth of bacterial spinae
K.B. EASTERBROOK and S.A. ALEXANDER 476
- Eberle, M.W.**
Observation of symbiote migration in human body lice with
scanning and transmission electron microscopy
M.W. EBERLE and D.L. McLEAN 755
- El-Banna, A.A.**
Survival in foods of *Staphylococcus aureus* grown under optimal
and stressed conditions and the effect of some food preservatives
A.A. EL-BANNA and A. HURST 297
- Elkan, G.H.**
The transport and metabolism of glucose in cowpea rhizobia
MARK D. STOWERS and GERALD H. ELKAN 398
- Elmerich, C.**
Isolation and genetic analysis of *Azospirillum brasilense* Nif⁻
mutants
P. JARA, B. QUIVIGER, P. LAURENT, and C. ELMERICH 968
- Elmes, M.L.**
An electron spin resonance investigation of *Bacillus megaterium*
KM spore inner and cell membranes
M.L. ELMES, P.O. WILKINS, and P.C. FITZ-JAMES 815
- Escoula, L.**
Interaction *in vitro* entre l'association ampicilline-colistine et
Escherichia coli résistant à l'ampicilline
M. COSTE et L. ESCOULA 1650
- Esteva, D.**
Nitrogenase inactivation by oxygen and enzyme turnover in
Anabaena cylindrica
MARCIA A. MURRY, PATRICK C. HALLENBECK,
DIANE ESTEVA, and JOHN R. BENEMANN 1286
- Fargues, J.F.**
Effects of passing through scarabid hosts on virulence and host
specificity of two strains of the entomopathogenic hyphomycete
Metarhizium anisopliae
JACQUES F. FARGUES and PIERRE H. ROBERT 576
- Fayret, J.**
Étude comparée de la dégradation de lignocelluloses par différentes
souches de *Fomes annosus*
J.J. BONO, G. GAS, A.M. BOUDET, J. FAYRET et
C. DELATOUR 1683
- Fedorak, P.M.**
Microbial degradation of organic sulfur compounds in Prudhoe Bay
crude oil
P.M. FEDORAK and D.W.S. WESTLAKE 291
- Selective degradation of biphenyl and methylbiphenyls in crude oil
by two strains of marine bacteria
P.M. FEDORAK and D.W.S. WESTLAKE 497
- Effect of the dispersant Corexit 9527 on the microbial degradation
of sulfur heterocycles in Prudhoe Bay oil
J.M. FOGHT, P.M. FEDORAK, and D.W.S. WESTLAKE 623
- Ferguson, K.P.**
Production of phenylacetic acid by *Bacteroides melaninogenicus*
ssp. *intermedius* serogroup C-1
KAETHE P. FERGUSON, WILLIAM R. MAYBERRY, and
DWIGHT W. LAMBE, JR. 276
- Fikes, J.D.**
Studies on the mode of action of a bacteriocin produced by *Bacillus*
stearothermophilus
J.D. FIKES, B.L. CRABTREE, and B.D. BARRIDGE 1576
- Filion, W.G.**
Determination of nuclear DNA content in fungi using mithramycin:
vegetative diploidy in *Armillaria mellea* confirmed
A.L. FRANKLIN, W.G. FILION, and J.B. ANDERSON 1179
- Filonow, A.B.**
Bacterial chemotaxis to fungal propagules *in vitro* and in soil
D.K. ARORA, A.B. FILONOW, and J.L. LOCKWOOD 1104
- Exudation from 14 C-labeled fungal propagules in the presence of
specific microorganisms
D.K. ARORA, A.B. FILONOW, and J.L. LOCKWOOD 1487
- Fitzgerald, T.J.**
Further evidence for hyaluronidase activity of *Treponema pallidum*
T.J. FITZGERALD and E.M. GANNON 1507
- Fitz-James, P.C.**
An electron spin resonance investigation of *Bacillus megaterium*
KM spore inner and cell membranes
M.L. ELMES, P.O. WILKINS, and P.C. FITZ-JAMES 815
- Flatau, G.N.**
Accumulation du cadmium par *Mytilus edulis* en présence de
souches bactériennes sensibles ou résistantes à ce métal
G.N. FLATAU et M.J. GAUTHIER 210
- Flores, M.E.**
Inhibition de la croissance de populations bactériennes par des
suspensions obtenues de *Pseudomonas aeruginosa* pyocinogéniques
HÉCTOR G. GARCÍA-QUINTANA et M. ELENA FLORES 471
- Foght, J.M.**
Effect of the dispersant Corexit 9527 on the microbial degradation
of sulfur heterocycles in Prudhoe Bay oil
J.M. FOGHT, P.M. FEDORAK, and D.W.S. WESTLAKE 623
- Forsberg, C.W.**
Partial characterization of the extracellular carboxymethylcellulase
activity produced by the rumen bacterium *Bacteroides succinogenes*
D. GROLEAU and C.W. FORSBERG 504
- Association of methanogenic bacteria with rumen protozoa
LEE R. KRUMHOLZ, CECIL W. FORSBERG, and
DOUGLAS M. VEIRA 676
- Solubilization of the extracellular membranous carboxymethylcellu-
lase of *Bacteroides succinogenes* by trypsin
D. GROLEAU and C.W. FORSBERG 710

Fournier, R.

Aspect morphologique et composition chimique de *Skeletonema costatum* (Bacillariophyceae) croissant en milieu nutritif naturel à l'aide d'un système de culture à fibres dialysantes

PIERRE MARSOT, MARC LECLERC et RÉAL FOURNIER 1235

Fox, G.E.

Molecular evidence for a close phylogenetic relationship among box-shaped halophilic bacteria, *Halobacterium vallismortis*, and *Halobacterium marismortui*

DIARMUID E. NICHOLSON and GEORGE E. FOX 52

Fracheboud, D.

Fractionation and identification of cellulases and other extracellular enzymes produced by *Sporotrichum* (*Chrysosporium*) *thermophile* during growth on cellulose or cellobiose

G. CANEVASINI, D. FRACHEBOUD, and H. MEIER 1071

Francis, D.W.

Effect of temperature, duration of incubation, and pH of enrichment culture on the recovery of *Campylobacter jejuni* from eviscerated market chickens

C.E. PARK, Z.K. STANKIEWICZ, J. LOVETT, J. HUNT, and D.W. FRANCIS 803

Francis, J.C.

Chemostat competition of alkaline phosphatase regulatory mutants in *Escherichia coli*

J.C. FRANCIS and D.A. BEARY 174

Franklin, A.L.

Determination of nuclear DNA content in fungi using mithramycin: vegetative diploidy in *Armillaria mellea* confirmed

A.L. FRANKLIN, W.G. FILION, and J.B. ANDERSON 1179

Franklin, J.P.

Reticuloendotheliosis virus-transformed cells contain infectious and noninfectious proviral sequences in different chromosomes

JANE PFEIL FRANKLIN, HENRY R. BOSE, JR., and C.-YONG KANG 354

Fried, M.

The methodology of measurement of N_2 fixation by nonlegumes as inferred from field experiments with legumes

M. FRIED, S.K.A. DANSO, and F. ZAPATA 1053

Fukami, K.

Distribution of heterotrophic bacteria in relation to the concentration of particulate organic matter in seawater

KIMIO FUKAMI, USIO SIMIDU, and NOBUO TAGA 570

Gadbois, T.

Use of rabbit mesentery in the evaluation of adherence of prototrophic and auxotrophic gonococcal strains

L.G. MATHIEU, J. DEREPENTIGNY, P.L. TURGEON, and T. GADBOIS 421

Gannon, E.M.

Further evidence for hyaluronidase activity of *Treponema pallidum*

T.J. FITZGERALD and E.M. GANNON 1507

García-Quintana, H.G.

Inhibition de la croissance de populations bactériennes par des suspensions obtenues de *Pseudomonas aeruginosa* pyocinogéniques

HÉCTOR G. GARCÍA-QUINTANA et M. ELENA FLORES 471

Gariépy, F.

Unusual properties of a new division mutant of *Escherichia coli*

G.R. DRAPEAU, J.P. CHAUSSEAU, and F. GARIÉPY 694

Gas, G.

Étude comparée de la dégradation de lignocelluloses par différentes souches de *Fomes annosus*

J.J. BONO, G. GAS, A.M. BOUDET, J. FAYRET et C. DELATOUR 1683

Gaucher, G.M.

Examination of immobilized fungal cells by phase-contrast and scanning electron microscopy

Y.M. DEO, J.W. COSTERTON, and G.M. GAUCHER 1642

Gauthier, D.L.

Effect of L-methionine-DL-sulfoximine on acetylene reduction and vesicle formation in derepressed cultures of *Frankia* strain D11

D.L. GAUTHIER 1003

Gauthier, M.J.

Accumulation du cadmium par *Mytilus edulis* en présence de souches bactériennes sensibles ou résistantes à ce métal

G.N. FLATAU et M.J. GAUTHIER 210

Gay, G.

Growth of two serotypes of *Nitrobacter* in mixotrophic and chemoorganotrophic conditions

G. GAY, A. JOSSERAND, and R. BARDIN 394

Gélinas, P.

Efficacité de huit désinfectants sur trois types de surfaces contaminées par *Pseudomonas aeruginosa*

P. GÉLINAS et J. GOULET 1715

Girardet, F.

Microcycle conidiation in pycnidial cirrhii of *Phomopsis viticola* Sacc. induced by elemental sulfur

R. PEZET, V. PONT, and F. GIRARDET 179

Gordon, J.K.

Isolation and characterization of *Azotobacter vinelandii* mutant strains with potential as bacterial fertilizer

JOYCE K. GORDON and MARTY R. JACOBSON 973

Gould, W.D.

Nitrogen isotope fractionation during the reduction of NO_3^- to NH_4^+ by *Desulfovibrio* sp.

R.G.L. MCCREADY, W.D. GOULD, and R.W. BARENDREGT 231

Goulet, J.

A new simple method of microbiological sampling of meat surfaces

J. GOULET, G. LÉVESQUE, J.R. MOREAU, and L.A. ROTH 631

Efficacité de huit désinfectants sur trois types de surfaces contaminées par *Pseudomonas aeruginosa*

P. GÉLINAS et J. GOULET 1715

Gowda, T.K.S.

Autoradiographic technique for screening chemolithotrophic hydrogen-utilizing bacteria

T.K.S. GOWDA and I. WATANABE 1081

Grady, D.V.

Detection of *Gardnerella vaginalis* on vaginal smears by immunofluorescence

RAUL J. CANO, MELINDA A. BECK, and DAVID V. GRADY 27

Granada, G.A.

Survival of *Pseudomonas solanacearum* in soil, rhizosphere, and plant roots

G.A. GRANADA and LUIS SEQUEIRA 433

- Granger, P.**
Composés stéroliques des spores d'*Anthurus muellerianus* (Basi-
diomycète)
R. HERBER, J. VILLOUTREIX, P. GRANGER et S. CHAPELLE 602
- Influence de l'anaérobiose sur la composition en stérois de *Mucor*
hiemalis
R. HERBER, J. VILLOUTREIX, P. GRANGER et S. CHAPELLE 606
- Graves, S.**
The role of respiratory protection on increased survival of
Treponema pallidum (Nichols) when cocultivated with mammalian
cells *in vitro*
BRET STEINER, GRACE H.W. WONG, LINDA DRUMMOND,
and STEPHEN GRAVES 1595
- Gray, C.T.**
Presence of a new cytochrome *b* - like pigment with a peak at 567
nm in various aerobic bacteria
N.J. JACOBS, J. O'HARA, and C.T. GRAY 1154
- Greenhalgh, R.**
Production of deoxynivalenol and related compounds in liquid
culture by *Fusarium graminearum*
J.D. MILLER, A. TAYLOR, and R. GREENHALGH 1171
- Gregory, K.F.**
Reproduction of *Cephalosporium eichhorniae* as spheroplasts
KACHORN CHAROENSIRI and KENNETH F. GREGORY 1539
- Grenier, D.**
Études d'infections mixtes anaérobies comportant *Bacteroides*
gingivalis
D. GRENIER et D. MAYRAND 612
- Groleau, D.**
Partial characterization of the extracellular carboxymethylcellulase
activity produced by the rumen bacterium *Bacteroides succinogenes*
D. GROLEAU and C.W. FORSBERG 504
- Solubilization of the extracellular membranous carboxymethylcellu-
lase of *Bacteroides succinogenes* by trypsin
D. GROLEAU and C.W. FORSBERG 710
- Gross, K.**
Characterization of mutants of herpes simplex viruses, types 1 and
2, that produce fragments of the thymidine kinase polypeptide
TIMOTHY M.-P. BLOCK, NANCY J. KUHN,
KAREN A. KUSTAS, WILLIAM A. HELD, KENNETH GROSS,
and ROBERT G. HUGHES, JR. 385
- Guijarro, J.A.**
Pattern of protein degradation during germination of *Streptomyces*
antibioticus spores
J.A. GUIJARRO, J.E. SUAREZ, J.A. SALAS, and
C. HARDISSON 637
- Haahela, K.**
Morphological and physiological characteristics and lipopolysac-
charide composition of N₂-fixing (C₂-H₂-reducing) root-associated
Pseudomonas sp.
KIELO HAAHELA, ILKKA HELANDER,
EVA-LIISA NURMIAHO-LASSILA, and VERONICA SUNDMAN 874
- Hadar, Y.**
The regulation of sclerotium initiation in *Sclerotium rolfsii* by
glucose and cyclic AMP
Y. HADAR, M. PINES, I. CHET, and Y. HENIS 21
- Hageman, J.H.**
Production by *Bacillus subtilis* of brown sporulation-associated
pigments
TERRY A. BARNETT, DAVID VALENZUELA, STEVEN RINER,
and JAMES H. HAGEMAN 96
- Characterization of a brown pigment from *Bacillus subtilis* cultures
TERRY A. BARNETT and JAMES H. HAGEMAN 309
- Hall, M.**
Cell division in *Deinococcus radiodurans* and a method for
displaying septa
R.G.E. MURRAY, M. HALL, and B.G. THOMPSON 1412
- Hall, P.G.**
Swarming of *Azospirillum brasilense* on solid media
PATRICK G. HALL and NOEL R. KRIEG 1592
- Hallenbeck, P.C.**
Nitrogenase inactivation by oxygen and enzyme turnover in
Anabaena cylindrica
MARCIA A. MURRY, PATRICK C. HALLENBECK,
DIANE ESTEVA, and JOHN R. BENEMANN 1286
- Hamer, J.E.**
The timing of ribonucleic acid synthesis during the germination of
heat-activated *Dictyostelium discoideum* spores
JOHN E. HAMER and DAVID A. COTTER 1390
- Hardisson, C.**
Pattern of protein degradation during germination of *Streptomyces*
antibioticus spores
J.A. GUIJARRO, J.E. SUAREZ, J.A. SALAS, and
C. HARDISSON 637
- Hartmann, A.**
Isolation and characterization of *Azospirillum* mutants excreting
high amounts of indoleacetic acid
A. HARTMANN, MAHAVIR SINGH, and W. KLINGMÜLLER 916
- Hedgecock, D.**
Pichia pseudocactophila, a new species of yeast occurring in
necrotic tissue of columnar cacti in the North American Sonoran
Desert
DONALD L. HOLZSCHU, HERMAN J. PHAFF,
JOANNE TREDICK, and DENNIS HEDGECKOCK 1314
- Hegazi, N.A.**
Response of maize plants to inoculation with azospirilla and (or)
straw amendment in Egypt
NABIL A. HEGAZI, MOHAMED MONIB, HUSSEIN A. AMER,
and EL-SAYED SHOKR 888
- Heilman, P.**
Phytomass production in young mixed plantations of *Alnus rubra*
(Bong.) and cottonwood in western Washington
PAUL HEILMAN and R.F. STETTLE 1007
- Helander, I.**
Morphological and physiological characteristics and lipopolysac-
charide composition of N₂-fixing (C₂-H₂-reducing) root-associated
Pseudomonas sp.
KIELO HAAHELA, ILKKA HELANDER,
EVA-LIISA NURMIAHO-LASSILA, and VERONICA SUNDMAN 874

- Held, W.A.**
Characterization of mutants of herpes simplex viruses, types 1 and 2, that produce fragments of the thymidine kinase polypeptide
TIMOTHY M.-P. BLOCK, NANCY J. KUHN,
KAREN A. KUSTAS, WILLIAM A. HELD, KENNETH GROSS,
and ROBERT G. HUGHES, JR. 385
- Heldal, M.**
Gallionella from metalimnion in an eutrophic lake: morphology and X-ray energy-dispersive microanalysis of apical cells and stalks
MIKAL HELDAL and OLE TUMYR 303
- Hendry, A.T.**
Growth responses of *Neisseria gonorrhoeae* auxotypes to required amino acids and bases in liquid medium
A.T. HENDRY 1309
- Henis, Y.**
The regulation of sclerotium initiation in *Sclerotium rolfsii* by glucose and cyclic AMP
Y. HADAR, M. PINES, I. CHET, and Y. HENIS 21
- Herber, R.**
Composés stéroïques des spores d'*Anthurus muellerianus* (Basi-
diomycète)
R. HERBER, J. VILLOUTREIX, P. GRANGER et S. CHAPPELLE 602
- Influence de l'anaérobiose sur la composition en stéroïdes de *Mucor
hiemalis*
R. HERBER, J. VILLOUTREIX, P. GRANGER et S. CHAPPELLE 606
- Hetrick, F.M.**
Mechanism of poliovirus inactivation by cell-free filtrates of marine
bacteria
ALICIA E. TORANZO, JUAN L. BARJA, and
FRANK M. HETRICK 1481
- Heulin, T.**
Determination of the most frequent N₂-fixing bacteria in a rice
rhizosphere
R. BALLY, DANIELLE THOMAS-BAUZON, TH. HEULIN,
J. BALANDREAU, C. RICHARD, and J. DE LEY 881
- Hill, W.A.**
Characterization of N₂-fixing bacteria associated with sweet potato
roots
WALTER A. HILL, PANSY BACON-HILL,
STAFFORD M. CROSSMAN, and CLAUZELL STEVENS 860
- Hilsabeck, L.**
Effects of NaCl on the uptake of α -[¹⁴C]aminoisobutyric acid by the
halotolerant bacterium *Halomonas elongata*
E.L. MARTIN, T. DURYEA-RICE, R.H. VREELAND,
L. HILSABECK, and C. DAVIS 1424
- Hodinka, R.L.**
Effect of rat polymorphonuclear leukocyte granule components on
the growth and survival of *Pseudomonas aeruginosa* and *Sal-
monella typhimurium*
M.C. MODRZAKOWSKI, D. DOSCH-MEIER, and
R.L. HODINKA 1339
- Holl, F.B.**
Consensus paper: Plant genetics: manipulation of the host
F.B. HOLL 945
- Holt, S.C.**
Erratum: Electron microscopy: its development and application to
microbiology
S.C. HOLT and T.J. BEVERIDGE 1234
- Acid and alkaline phosphatases of *Capnocytophaga* species. I.
Production and cytological localization of the enzymes
THOMAS P. POIRIER and STANLEY C. HOLT 1350
- Acid and alkaline phosphatases of *Capnocytophaga* species. II.
Isolation, purification, and characterization of the enzymes from
Capnocytophaga ochracea
THOMAS P. POIRIER and STANLEY C. HOLT 1361
- Acid and alkaline phosphatases of *Capnocytophaga* species. III.
The relationship of the enzymes to the cell wall
THOMAS P. POIRIER and STANLEY C. HOLT 1369
- The *in vitro* effect of *Actinobacillus actinomycetemcomitans* strain
Y4 lipopolysaccharide on murine peritoneal macrophages
KATHLEEN A. BARKER and S.C. HOLT 1552
- Holzschu, D.L.**
Pichia pseudocactophila, a new species of yeast occurring in
necrotic tissue of columnar cacti in the North American Sonoran
Desert
DONALD L. HOLZSCHU, HERMAN J. PHAFF,
JOANNE TREDICK, and DENNIS HEDGECOCK 1314
- Hooper, I.**
Moderately large plasmids of *Rhizobium meliloti*
T. ADACHI, I. HOOPER, and V.N. IYER 1601
- Horn, B.W.**
Factors influencing the inhibition of aflatoxin production in corn by
Aspergillus niger
B.W. HORN and D.T. WICKLOW 1087
- Horowitz, A.**
Characteristics and diversity of subarctic marine oligotrophic,
stenoheterotrophic, and euryheterotrophic bacterial populations
A. HOROWITZ, M.I. KRICHEVSKY, and R.M. ATLAS 527
- Howell, C.R.**
Gliovirin, a new antibiotic from *Gliocladium virens*, and its role in
the biological control of *Pythium ultimum*
CHARLES R. HOWELL and ROBERT D. STIPANOVIC 321
- Hughes, J.E.**
Conservation of genetic information between different *Rhizobium*
species
B.D.W. JARVIS, K.F. SCOTT, J.E. HUGHES,
M. DJORDJEVIC, B.G. ROLFE, and J. SHINE 200
- Hughes, R.G., Jr.**
Characterization of mutants of herpes simplex viruses, types 1 and
2, that produce fragments of the thymidine kinase polypeptide
TIMOTHY M.-P. BLOCK, NANCY J. KUHN,
KAREN A. KUSTAS, WILLIAM A. HELD, KENNETH GROSS,
and ROBERT G. HUGHES, JR. 385
- Hunt, J.**
Effect of temperature, duration of incubation, and pH of enrichment
culture on the recovery of *Campylobacter jejuni* from eviscerated
market chickens
C.E. PARK, Z.K. STANKIEWICZ, J. LOVETT, J. HUNT, and
D.W. FRANCIS 803

Hurst, A.

Survival in foods of *Staphylococcus aureus* grown under optimal and stressed conditions and the effect of some food preservatives
A.A. EL-BANNA and A. HURST 297

Ibrahim, H.

Toxicity of radiation-resistant strains of *Bacillus thuringiensis* (Berl.) to larval *Plutella xylostella* (L.)
M. SANUSI JANGI and HASAN IBRAHIM 552

Imhoff, J.F.

Amino acid composition of proteins in halophilic phototrophic bacteria of the genus *Ectothiorhodospira*
JOHANNES F. IMHOFF, DONN J. KUSHNER, and
PETER J. ANDERSON 1675

Ippoliti, S.

Respiratory activity, molar growth yields, and ATP content in an *Arthrobacter* sp. ammonium-limited chemostat culture
I. CACCIARI, D. LIPPI, S. IPPOLITI, and W. PIETROSANTI 1136

Isaque, M.

Impairment of virulence of *in vitro* subcultures of *Mycobacterium lepraemurium*
R. TURCOTTE and M. ISAUQUE 1589

Ishiguro, E.E.

A lipopolysaccharide-specific bacteriophage for *Aeromonas salmonicida*
E.E. ISHIGURO, TERESA AINSWORTH, D.H. SHAW,
W.W. KAY, and T.J. TRUST 1458

Iyer, V.N.

Hydrogenase and ribulose-1,5-bisphosphate carboxylase activities of *Alcaligenes eutrophus* ATCC 17706 associated with an indigenous plasmid
R.M. BEHKI, G. SELVARAJ, and V.N. IYER 767

Moderately large plasmids of *Rhizobium meliloti*

T. ADACHI, I. HOOPER, and V.N. IYER 1601

Jacobs, N.J.

Presence of a new cytochrome *b* - like pigment with a peak at 567 nm in various aerobic bacteria
N.J. JACOBS, J. O'HARA, and C.T. GRAY 1154

Jacobson, M.R.

Isolation and characterization of *Azotobacter vinelandii* mutant strains with potential as bacterial fertilizer
JOYCE K. GORDON and MARTY R. JACOBSON 973

Jain, D.K.

Consensus paper: Sites and processes of association between diazotrophs and grasses
D.G. PATRIQUIN, J. DÖBEREINER, and D.K. JAIN 900

Jangi, M.S.

Toxicity of radiation-resistant strains of *Bacillus thuringiensis* (Berl.) to larval *Plutella xylostella* (L.)
M. SANUSI JANGI and HASAN IBRAHIM 552

Janssens, D.

The significance of 3-ketolactose in the lactose catabolism by *Agrobacterium*
D. JANSSENS, K. KERSTERS, and J. DE LEY 1096

Jara, P.

Isolation and genetic analysis of *Azospirillum brasilense* Nif⁻ mutants
P. JARA, B. QUIVIGER, P. LAURENT, and C. ELMERICH 968

Jarvis, B.D.W.

Conservation of genetic information between different *Rhizobium* species
B.D.W. JARVIS, K.F. SCOTT, J.E. HUGHES,
M. DJORDJEVIC, B.G. ROLFE, and J. SHINE 200

DNA homology, phage-typing, and cross-nodulation studies of rhizobia infecting *Galega* species

KRISTINA LINDSTRÖM, B.D.W. JARVIS, P.E. LINDSTRÖM,
and J.J. PATEL 781

Jen, W.-C.

Effects of chetomin on growth and acidic fermentation products of rumen bacteria
W.-C. JEN and G.A. JONES 1399

Jensen, S.E.

Partial purification and characterization of isopenicillin N epimerase activity from *Streptomyces clavuligerus*
SUSAN E. JENSEN, DONALD W.S. WESTLAKE, and
SAUL WOLFE 1526

Johnson, J.C.

A multiple extraction-centrifugation method for the recovery of viruses from waste water treatment plant effluents and sludges
MARGARET A. LEWIS, MICHAEL W. NATH, and
J.C. JOHNSON 1661

Jones, C.

Serotypes of *Neisseria meningitidis* associated with an increased incidence of meningitis cases in the Hamilton area, Ontario, during 1978 and 1979
FRASER E. ASHTON, J. ALAN RYAN, COLINA JONES,
BERNARD R. BRODEUR, and BENITO B. DIENA 129

Jones, G.A.

Effects of chetomin on growth and acidic fermentation products of rumen bacteria
W.-C. JEN and G.A. JONES 1399

Jones, R.D.

Carbon monoxide oxidation by chemolithotrophic ammonium oxidizers
RONALD D. JONES and RICHARD Y. MORITA 1545

Jordan, D.C.

A new inorganic pyrophosphate utilizing bacterium from a stagnant lake
A.K. VARMA, W. RIGSBY, and D.C. JORDAN 1470

Josserand, A.

Growth of two serotypes of *Nitrobacter* in mixotrophic and chemoorganotrophic conditions
G. GAY, A. JOSSERAND, and R. BARDIN 394

Kadam, S.K.

Derepression of F factor function in *Salmonella typhimurium*
KENNETH E. SANDERSON, SUNIL K. KADAM, and
P.R. MACLACHLAN 1205

Kamekura, M.

Inactivation of nuclease H of the moderate halophile *Micrococcus varians* ssp. *halophilus* during cultivation in the presence of salting-in-type salts
MASAHIRO KAMEKURA and HIROSHI ONISHI 46

- Kaneda, T.**
Effect of growth substrates on fatty acid composition of *Corynebacterium cyclohexanicum*
T. KANEDA 364
- Fatty acid composition and primer specificity of *de novo* fatty acid synthetase in *Bacillus globisporus*, *Bacillus insolitus*, and *Bacillus psychrophilus*
TOSHI KANEDA, ELEANOR J. SMITH, and DEVARRAY N. NAIK 1634
- Kang, C.-Y.**
Reticuloendotheliosis virus-transformed cells contain infectious and noninfectious proviral sequences in different chromosomes
JANE PFEIL FRANKLIN, HENRY R. BOSE, JR., and C.-YONG KANG 354
- Kapulnik, Y.**
Effect of *Azospirillum* inoculation on yield of field-grown wheat
YORAM KAPULNIK, SHLOMO SARIG, ISRAEL NUR, and YAACOV OKON 895
- Katan, J.**
The effect of sublethal heating on sclerotia of *Sclerotium rolfsii*
R. LIFSHTITZ, M. TABACHNIK, J. KATAN, and I. CHET 1607
- Kauri, T.**
Changes in bacterial populations in a clear-cut beech forest soil planted with spruce
TIJU KAURI 644
- Kawaguchi, M.**
Polyamine distribution in *Vibrionaceae*: norspermidine as a general constituent of *Vibrio* species
SHIGEO YAMAMOTO, SUMIO SHINODA, MIHO KAWAGUCHI, KYOMI WAKAMATSU, and MASAMI MAKITA 724
- Kay, W.W.**
A lipopolysaccharide-specific bacteriophage for *Aeromonas salmonicida*
E.E. ISHIGURO, TERESA AINSWORTH, D.H. SHAW, W.W. KAY, and T.J. TRUST 1458
- Kennedy, C.**
Progress in comparative genetics of nitrogen fixation
ROBERT ROBSON, CHRISTINA KENNEDY, and JOHN POSTGATE 954
- Kerr, T.J.**
Characterization of *Arthrobacter* strains isolated from the pine environment that inhibit *Fusarium moniliforme* var. *subglutinans*, the causal agent of pine pitch canker
JANE BARROWS-BROADBENT, SHARI D. TEESLINK, and THOMAS J. KERR 1382
- Kershaw, K.A.**
Nitrogenase activity during chinook snowmelt sequences by *Nostoc commune* in *Stipa-Bouteloua* grassland
D.S. COXSON and K.A. KERSHAW 938
- Kerstens, K.**
The significance of 3-ketolactose in the lactose catabolism by *Agrobacterium*
D. JANSSENS, K. KERSTENS, and J. DE LEY 1096
- Khakhria, R.**
The epidemic spread of *Salmonella typhimurium* phage type 10 in Canada (1970-1979)
R. KHAKHRIA, B. BEZANSON, D. DUCK, and H. LIOR 1583
- Khan, A.W.**
Ethanol production by a newly isolated anaerobe. *Clostridium saccharolyticum*: effects of culture medium and growth conditions
WILLIAM D. MURRAY and A.W. KHAN 342
- Growth requirements of *Clostridium saccharolyticum*, an ethanologenic anaerobe
WILLIAM D. MURRAY and A.W. KHAN 348
- Khittoo, G.**
Adenovirus core proteins
JOSEPH M. WEBER, GOVINDRANATHSING KHITTOO, and A. RASHID BHATTI 235
- King, E.J.**
A technique for preserving aerial fungal structures for scanning electron microscopy
E.J. KING and M.F. BROWN 653
- Kingsley, M.T.**
Characterization of *Rhizobium* sp. (*Cicer arietinum* L.) by immunofluorescence, immunodiffusion, and intrinsic antibiotic resistance
MARK T. KINGSLEY and B. BEN BOHLOOL 518
- Kligerman, A.**
Production of curdlan-type polysaccharide by *Alcaligenes faecalis* in batch and continuous culture
K. RAILTON PHILLIPS, J. PIK, H.G. LAWFOR, B. LAVERS, A. KLIGERMAN, and G.R. LAWFOR 1331
- Klingmüller, W.**
Isolation and characterization of *Azospirillum* mutants excreting high amounts of indoleacetic acid
A. HARTMANN, MAHAVIR SINGH, and W. KLINGMÜLLER 916
- Kloc, M.**
The effect of hydroxyurea on DNA synthesis of *Tipula* iridescent virus and *Estigmene acrea* cells
MALGORZATA KLOC and PETER E. LEE 254
- Knowles, R.**
Effect of hydrogen and oxygen on uptake-hydrogenase activity in nitrogen-fixing and ammonium-grown *Azospirillum brasilense*
KARL H. TIBELIUS and ROGER KNOWLES 1119
- Kosslak, R.M.**
Prevalence of *Azospirillum* spp. in the rhizosphere of tropical plants
RENEE M. KOSSLAK and B. BEN BOHLOOL 649
- Kotarski, S.F.**
Galactosamine inhibition of protein synthesis in *Bacteroides thetaiotaomicron*
ABIGAIL A. SALYERS, M. O'BRIEN, and S.F. KOTARSKI 1532
- Koval, S.F.**
Solubilization of the surface protein of *Aquaspirillum serpens* by chaotropic agents
S.F. KOVAL and R.G.E. MURRAY 146
- Krichevsky, M.I.**
Characteristics and diversity of subarctic marine oligotrophic, stenoheterotrophic, and euryheterotrophic bacterial populations
A. HOROWITZ, M.I. KRICHEVSKY, and R.M. ATLAS 527
- Krieg, N.R.**
Swarming of *Azospirillum brasilense* on solid media
PATRICK G. HALL and NOEL R. KRIEG 1592

Krumholz, L.R.

Association of methanogenic bacteria with rumen protozoa
LEE R. KRUMHOLZ, CECIL W. FORSBERG, and
DOUGLAS M. VEIRA

676

Kubicek, C.P.

β -Glucosidase excretion in *Trichoderma* strains with different cell wall bound β -1,3-glucanase activities
CHRISTIAN P. KUBICEK

163

Kubicki, D.

Release of protoplasts from the galactose oxidase producing mold, *Dactylium dendroides*
DÉA AMARAL, DOROTY KUBICKI, and HECTOR F. TERENCE

763

Kuhn, N.J.

Characterization of mutants of herpes simplex viruses, types 1 and 2, that produce fragments of the thymidine kinase polypeptide
TIMOTHY M.-P. BLOCK, NANCY J. KUHN,
KAREN A. KUSTAS, WILLIAM A. HELD, KENNETH GROSS,
and ROBERT G. HUGHES, JR.

385

Kupka, J.

Studies on the ring-cyclization and ring-expansion enzymes of β -lactam biosynthesis in *Cephalosporium acremonium*
JUTTA KUPKA, Y.-Q. SHEN, SAUL WOLFE, and
ARNOLD L. DEMAINE

488

Kurup, V.P.

Immunochemical characterization of *Nocardia asteroides* antigens: support for a single species concept
VISWANATH P. KURUP, JAMES E. PIECHURA, EVE Y. TING,
and JULIE A. ORLOWSKI

425

Kushner, D.J.

Erratum: Effects of chromium and manganese on *Thiobacillus ferrooxidans*
CHEN WONG, MARVIN SILVER, and DONN J. KUSHNER

630

Amino acid composition of proteins in halophilic phototrophic bacteria of the genus *Ectothiorhodospira*
JOHANNES F. IMHOFF, DONN J. KUSHNER, and
PETER J. ANDERSON

1675

Kustas, K.A.

Characterization of mutants of herpes simplex viruses, types 1 and 2, that produce fragments of the thymidine kinase polypeptide
TIMOTHY M.-P. BLOCK, NANCY J. KUHN,
KAREN A. KUSTAS, WILLIAM A. HELD, KENNETH GROSS,
and ROBERT G. HUGHES, JR.

385

Kwolek, W.F.

Variability of bright, greenish-yellow fluorescent particles and aflatoxin in ground blends of *Zea mays*
O.H. CALVERT, E.B. LILLEHOJ, W.F. KWOLEK,
M.S. ZUBER, and E.L. LAUVER

558

Labbe, R.G.

Conditions for production of initiation protein for germination of *Clostridium perfringens* spores
RONALD G. LABBE and SHIRLEY S. TANG

829

Ladd, T.I.

The effects of chlorinated municipal sewage and temperature on the abundance of bacteria in the Sheep River, Alberta
L.L. OSBORNE, R.W. DAVIES, R.M. VENTULLO,
T.I. LADD, and J.W. COSTERTON

261

Laddaga, R.A.

Factors affecting the release of outer membrane from a gram-negative marine bacterium
RICHARD A. LADDAGA and ROBERT A. MACLEOD

659

Ladha, J.K.

Isolation and identification of N_2 -fixing *Pseudomonas* associated with wetland rice
W.L. BARRAQUIO, J.K. LADHA, and I. WATANABE

867

Isolation and identification of nitrogen-fixing *Enterobacter cloacae* and *Klebsiella planticola* associated with rice plants
J.K. LADHA, W.L. BARRAQUIO, and I. WATANABE

1301

Laishley, E.J.

Isolation and characterization of a new acidophilic *Thiobacillus* species (*T. albertis*)
R.D. BRYANT, K.M. MCGROARTY, J.W. COSTERTON, and
E.J. LAISHLEY

1159

Lalonde, M.

2-O-Methyl-D-mannose, a key sugar in the taxonomy of *Frankia*
A. MORT, P. NORMAND, and M. LALONDE

993

Lambe, D.W., Jr.

Production of phenylacetic acid by *Bacteroides melaninogenicus* ssp. *intermedius* serogroup C-1
KAETHE P. FERGUSON, WILLIAM R. MAYBERRY, and
DWIGHT W. LAMBE, JR.

276

La Scole, L.J., Jr.

The detection of positive blood cultures in children using the acidine orange, gram, and methylene blue stains
LEONARD J. LA SCOLE, JR. and SUSAN M. BALDIGO

729

Laube, V.M.

Effect of some physical and chemical parameters on the fermentation of cellulose to methane by a coculture system
VICTORIA M. LAUBE and STANLEY M. MARTIN

1475

Laurent, P.

Isolation and genetic analysis of *Azospirillum brasilense* Nif-mutants
P. JARA, B. QUIVIGER, P. LAURENT, and C. ELMERICH

968

Lauver, E.L.

Variability of bright, greenish-yellow fluorescent particles and aflatoxin in ground blends of *Zea mays*
O.H. CALVERT, E.B. LILLEHOJ, W.F. KWOLEK,
M.S. ZUBER, and E.L. LAUVER

558

Lavers, B.

Production of curdlan-type polysaccharide by *Alcaligenes faecalis* in batch and continuous culture
K. RAILTON PHILLIPS, J. PIK, H.G. LAW FORD, B. LAVERS,
A. KLIGERMAN, and G.R. LAW FORD

1331

Lavoie, M.C.

Identification of strains isolated as total and fecal coliforms and comparison of both groups as indicators of fecal pollution in tropical climates
MARC C. LAVOIE

689

Lawford, G.R.

Production of curdlan-type polysaccharide by *Alcaligenes faecalis* in batch and continuous culture
K. RAILTON PHILLIPS, J. PIK, H.G. LAW FORD, B. LAVERS,
A. KLIGERMAN, and G.R. LAW FORD

1331

- Lawford, H.G.**
Theoretical maximum and observed product yields associated with curdlan production by *Alcaligenes faecalis*
K.R. PHILLIPS and H.G. LAWFORD 1270
- Production of curdlan-type polysaccharide by *Alcaligenes faecalis* in batch and continuous culture
K. RAILTON PHILLIPS, J. PIK, H.G. LAWFORD, B. LAVERS, A. KLIGERMAN, and G.R. LAWFORD 1331
- Leclerc, M.**
Aspect morphologique et composition chimique de *Skeletonema costatum* (Bacillariophyceae) croissant en milieu nutritif naturel à l'aide d'un système de culture à fibres dialysantes
PIERRE MARSOT, MARC LECLERC et RÉAL FOURNIER 1235
- LeDuy, A.**
Pullulan production from peat hydrolyzate
ANH LEDUY and JACQUES MIAN BOA 143
- Lee, P.E.**
The effect of hydroxyurea on DNA synthesis of *Tipula* iridescent virus and *Estigmene acrea* cells
MALGORZATA KLOC and PETER E. LEE 254
- Le Tacon, F.**
Spore germination and hyphal growth of a vesicular-arbuscular mycorrhizal fungus, *Glomus mosseae* (Gerdemann and Trappe), under decreased oxygen and increased carbon dioxide concentrations
F. LE TACON, F.A. SKINNER, and BARBARA MOSSE 1280
- Letarte, R.**
Comparative study of the beta-lactamase activity found in *Achromobacter*
ROGER LEVESQUE, ROBERT LETARTE, and JEAN-CLAUDE PECHÈRE 819
- Lévesque, G.**
A new simple method of microbiological sampling of meat surfaces
J. GOULET, G. LÉVESQUE, J.R. MOREAU, and L.A. ROTH 631
- Levesque, R.**
Comparative study of the beta-lactamase activity found in *Achromobacter*
ROGER LEVESQUE, ROBERT LETARTE, and JEAN-CLAUDE PECHÈRE 819
- Lewin, R.A.**
Subunit composition of goblet-shaped particles from the cell wall of *Flexibacter polymorphus*
H.F. RIDGWAY and R.A. LEWIN 1689
- Lewis, M.A.**
A multiple extraction-centrifugation method for the recovery of viruses from waste water treatment plant effluents and sludges
MARGARET A. LEWIS, MICHAEL W. NATH, and J.C. JOHNSON 1661
- Lifshitz, R.**
The effect of sublethal heating on sclerotia of *Sclerotium rolfsii*
R. LIFSHITZ, M. TABACHNIK, J. KATAN, and I. CHET 1607
- Lillehoj, E.B.**
Variability of bright, greenish-yellow fluorescent particles and aflatoxin in ground blends of *Zea mays*
O.H. CALVERT, E.B. LILLEHOJ, W.F. KWOLEK, M.S. ZUBER, and E.L. LAUER 558
- Lindström, K.**
DNA homology, phage-typing, and cross-nodulation studies of rhizobia infecting *Galega* species
KRISTINA LINDSTRÖM, B.D.W. JARVIS, P.E. LINDSTRÖM, and J.J. PATEL 781
- Lindström, P.E.**
DNA homology, phage-typing, and cross-nodulation studies of rhizobia infecting *Galega* species
KRISTINA LINDSTRÖM, B.D.W. JARVIS, P.E. LINDSTRÖM, and J.J. PATEL 781
- Lior, H.**
The epidemic spread of *Salmonella typhimurium* phage type 10 in Canada (1970-1979)
R. KHAKHRIA, B. BEZANSON, D. DUCK, and H. LIOR 1583
- Lippi, D.**
Respiratory activity, molar growth yields, and ATP content in an *Arthrobacter* sp. ammonium-limited chemostat culture
I. CACCIARI, D. LIPPI, S. IPPOLITI, and W. PIETROSANTI 1136
- Lisker, N.**
Ochratoxin production by *Aspergillus ochraceus* as affected by methionine and structurally related compounds
N. LISKER, N. PASTER, and I. CHET 536
- Litchfield, C.D.**
Relationship of the internal solute composition to the salt tolerance of *Halomonas elongata*
RUSSELL H. VREELAND, BRADLEY D. MIERAU, CAROL D. LITCHFIELD, and EUGENE L. MARTIN 407
- Lochnan, H.**
Rotavirus inactivation by chemical disinfectants and antiseptics used in hospitals
S.A. SATTAR, R.A. RAPHAEL, H. LOCHNAN, and V.S. SPRINGTHORPE 1464
- Lockwood, J.L.**
Bacterial chemotaxis to fungal propagules *in vitro* and in soil
D.K. ARORA, A.B. FILONOW, and J.L. LOCKWOOD 1104
- Exudation from ¹⁴C-labeled fungal propagules in the presence of specific microorganisms
D.K. ARORA, A.B. FILONOW, and J.L. LOCKWOOD 1487
- Loit, A.**
Collaborative study of the MPN, Anderson-Baird-Parker direct plating, and hydrophobic grid-membrane filter methods for the enumeration of *Escherichia coli* biotype I in foods
A.N. SHARPE, M.K. RAYMAN, D.M. BURGNER, D. CONLEY, A. LOIT, M. MILLING, P.I. PETERKIN, U. PURVIS, and S. MALCOLM 1247
- Loutit, J.S.**
FP2 plasmid curing in *Pseudomonas aeruginosa*
ANDREW A. POTTER and JOHN S. LOUITT 732
- Lovett, J.**
Effect of temperature, duration of incubation, and pH of enrichment culture on the recovery of *Campylobacter jejuni* from eviscerated market chickens
C.E. PARK, Z.K. STANKIEWICZ, J. LOVETT, J. HUNT, and D.W. FRANCIS 803

Luechtefeld, N.W.

Effect of incubation atmosphere and temperature on isolation of *Campylobacter jejuni* from human stools

WEN-LAN L. WANG, NANCY W. LUECHTEFELD,
M.J. BLASER, and L.B. RELLER

468

Lundgren, B.

Decrease in soil microbial activity and biomasses owing to nitrogen amendments

B. SÖDERSTRÖM, E. BÄÄTH, and B. LUNDGREN

1500

Macdonald, R.D.

Three new strains of infectious pancreatic necrosis virus isolated in Canada

RICHARD D. MACDONALD, ANNE R. MOORE, and
BRIAN W. SOUTER

137

MacDonell, M.T.

Rapid estimation of most probable number with a hand-held calculator

M.T. MACDONELL

621

MacLachlan, P.R.

Derepression of F factor function in *Salmonella typhimurium*

KENNETH E. SANDERSON, SUNIL K. KADAM, and
P.R. MACLACHLAN

1205

MacLeod, R.A.

Factors affecting the release of outer membrane from a gram-negative marine bacterium

RICHARD A. LADDAGA and ROBERT A. MACLEOD

659

Maibach, H.I.

Competitive adherence as a mechanism of bacterial interference

DEBRA JAN BIBEL, RAZA ALY, CHARLENE BAYLES,
WALTER G. STRAUSS, HENRY R. SHINEFIELD, and
HOWARD I. MAIBACH

700

Makita, M.

Polyamine distribution in *Vibrionaceae*: norspermidine as a general constituent of *Vibrio* species

SHIGEO YAMAMOTO, SUMIO SHINODA, MIHO KAWAGUCHI,
KYOMI WAKAMATSU, and MASAMI MAKITA

724

Malcolm, S.

Colony counting on hydrophobic grid-membrane filters

ANTHONY N. SHARPE, MARCEL P. DIOTTE, ISTVAN DUDAS,
STEPHEN MALCOLM, and PEARL I. PETERKIN

797

Collaborative study of the MPN, Anderson-Baird-Parker direct plating, and hydrophobic grid-membrane filter methods for the enumeration of *Escherichia coli* biotype I in foods

A.N. SHARPE, M.K. RAYMAN, D.M. BURGNER,
D. CONLEY, A. LOIT, M. MILLING, P.I. PETERKIN,
U. PURVIS, and S. MALCOLM

1247

Manavathu, E.K.

Cytochalasin A and respiratory inhibition in the water mold *Achlya ambisexualis*

ELIAS K. MANAVATHU and D. DES S. THOMAS

15

Margolin, P.

Bactericidal photoproducts in medium containing riboflavin plus aromatic compounds and $MnCl_2$

CESAR A. CHELALA and PAUL MARGOLIN

670

Marsot, P.

Production of antibacterial activities by two *Bacillariophyceae* grown in dialysis culture

SAM COOPER, AVIVA BATTAT, PIERRE MARSOT, and
MICHEL SYLVESTRE

338

Aspect morphologique et composition chimique de *Skeletonema costatum* (*Bacillariophyceae*) croissant en milieu nutritif naturel à l'aide d'un système de culture à fibres dialysantes

PIERRE MARSOT, MARC LECLERC et RÉAL FOURNIER

1235

Martin, A.M.

Adaptation of *Agaricus campestris* (NRRL 2334) to a peat extract medium

ANTONIO M. MARTIN

108

Martin, E.L.

Relationship of the internal solute composition to the salt tolerance of *Halomonas elongata*

RUSSELL H. VREELAND, BRADLEY D. MIERAU,
CAROL D. LITCHFIELD, and EUGENE L. MARTIN

407

Effects of NaCl on the uptake of α -[^{14}C]aminoisobutyric acid by the halotolerant bacterium *Halomonas elongata*

E.L. MARTIN, T. DURYEA-RICE, R.H. VREELAND,
L. HILSABECK, and C. DAVIS

1424

Martin, S.M.

Effect of some physical and chemical parameters on the fermentation of cellulose to methane by a coculture system

VICTORIA M. LAUBE and STANLEY M. MARTIN

1475

Martinez, J.

Control of catalase and peroxidase biosynthesis by carbon source and oxygen in the yeast *Saccharomyces cerevisiae*

E. VALDIVIA, J. MARTINEZ, J.M. ORTEGA, and
E. MONTOYA

1200

Mathieu, L.G.

Use of rabbit mesentery in the evaluation of adherence of prototrophic and auxotrophic gonococcal strains

L.G. MATHIEU, J. DEREPENTIGNY, P.L. TURGEON, and
T. GADBOIS

421

Matsui, E.

The use of the ^{15}N isotope dilution technique to estimate the contribution of associated biological nitrogen fixation to the nitrogen nutrition of *Paspalum notatum* cv. batatais

ROBERT M. BODDEY, PHILLIP M. CHALK,
REYNALDO L. VICTORIA, EIICHI MATSUI, and
JOHANNA DÖBEREINER

1036

Mayberry, W.R.

Production of phenylacetic acid by *Bacteroides melaninogenicus* ssp. *intermedius* serogroup C-1

KAETHE P. FERGUSON, WILLIAM R. MAYBERRY, and
DWIGHT W. LAMBE, JR.

276

Mayrand, D.

Études d'infections mixtes anaérobies comportant *Bacteroides gingivalis*

D. GRENIER et D. MAYRAND

612

Phenylacetic acid production by *Bacteroides gingivalis* from phenylalanine and phenylalanine-containing peptides

G. BOURGEOU and D. MAYRAND

1184

- McCready, R.G.L.**
Nitrogen isotope fractionation during the reduction of NO_3^- to NH_4^+ by *Desulfovibrio* sp.
R.G.L. MCCREADY, W.D. GOULD, and R.W. BARENDREGT 231
- McGroarty, K.M.**
Isolation and characterization of a new acidophilic *Thiobacillus* species (*T. albertis*)
R.D. BRYANT, K.M. MCGROARTY, J.W. COSTERTON, and E.J. LAISHLEY 1159
- McLean, D.L.**
Observation of symbiote migration in human body lice with scanning and transmission electron microscopy
M.W. EBERLE and D.L. MCLEAN 755
- McNabb, D.H.**
Dinitrogen fixation by a mature *Ceanothus velutinus* (Dougl.) stand in the Western Oregon Cascades
D.H. MCNABB and K. CROMACK, JR. 1014
- McQueen, R.E.**
Investigation of white-rot fungi for the conversion of poplar into a potential feedstuff for ruminants
A.E. READE and R.E. MCQUEEN 457
- McSween, G.**
Mouse immune response to meningococcal antigens
V.V. MICUSAN, J.G. BISAILLON, B.G. SPARKES, M. DESROSIERS, G. MCSWEEN, and J.M. DUPUY 1323
- Meier, H.**
Fractionation and identification of cellulases and other extracellular enzymes produced by *Sporotrichum* (*Chrysosporium*) *thermophile* during growth on cellulose or cellobiose
G. CANEVASCINI, D. FRACHEBOUD, and H. MEIER 1071
- Melcher, U.**
Complementary DNA - 25S ribosomal RNA hybridization: an improved method for phylogenetic studies
SIVASH BAHARAEEN, ULRICH MELCHER, and HELEN S. VISHNIAC 546
- Micusan, V.V.**
Mouse immune response to meningococcal antigens
V.V. MICUSAN, J.G. BISAILLON, B.G. SPARKES, M. DESROSIERS, G. MCSWEEN, and J.M. DUPUY 1323
- Prevention of the enhancing effect of mucin and iron in mouse meningococcal infection
J.M. DUPUY, B.G. SPARKES, M. DESROSIERS, E. SKAMENE, and V.V. MICUSAN 1671
- Mierau, B.D.**
Relationship of the internal solute composition to the salt tolerance of *Halomonas elongata*
RUSSELL H. VREELAND, BRADLEY D. MIERAU, CAROL D. LITCHFIELD, and EUGENE L. MARTIN 407
- Miller, D.R.**
Toxicité génétique du chlorure de méthylmercure (CH_3HgCl) sur les mitochondries de *Saccharomyces cerevisiae*
J. PHIPPS et D.R. MILLER 1149
- Miller, J.D.**
Production of deoxynivalenol and related compounds in liquid culture by *Fusarium graminearum*
J.D. MILLER, A. TAYLOR, and R. GREENHALGH 1171
- Miller, R.D.**
Arginine biosynthesis in *Legionella pneumophila*: absence of *N*-acetylglutamate synthetase
MARTHA J. TESH and RICHARD D. MILLER 1230
- Miller, R.W.**
Evaluation of competitive ability of *Rhizobium meliloti* strains for nodulation in alfalfa
E.A. PETERSON, J.C. SIROIS, W.B. BERNDT, and R.W. MILLER 541
- Milling, M.**
Collaborative study of the MPN, Anderson-Baird-Parker direct plating, and hydrophobic grid-membrane filter methods for the enumeration of *Escherichia coli* biotype I in foods
A.N. SHARPE, M.K. RAYMAN, D.M. BURGNER, D. CONLEY, A. LOIT, M. MILLING, P.I. PETERKIN, U. PURVIS, and S. MALCOLM 1247
- Mintz, C.S.**
Attachment of *Salmonella* to mammalian cells *in vitro*
CLIFFORD S. MINTZ, DEAN O. CLIVER, and R.H. DEIBEL 1731
- Miranda, M.**
Heterogeneity of the yeast flora in the breeding sites of cactophilic *Drosophila*
J.S.F. BARKER, G.L. TOLL, P.D. EAST, M. MIRANDA, and H.J. PHAFF 6
- Mirza, A.Q.**
Effect of triglycerides on the production of lipids and lipase by *Mucor hiemalis*
M. WAHEED AKHTAR, A. QAYYUM MIRZA, M. NADEEM NAWAZISH, and M.I.D. CHUGHTAI 664
- Mishra, A.K.**
Utilization of fructose by *Azospirillum brasilense*
AMARESH DAS and AJIT K. MISHRA 1213
- Mizuguchi, Y.**
An improved method for the preparation of mycobacterial spheroplasts and the mechanism involved in the reversion to bacillary form: electron microscopic and physiological study
TAKEZO UDOLU, MIDORI OGAWA, and YASUO MIZUGUCHI 60
- Modi, V.V.**
Linkage mapping of *Rhizobium japonicum* D211 by phage M-1 mediated transduction
KETAN SHAH, CHANDRASHEKHAR PATEL, and V.V. MODI 33
- Modrzakowski, M.C.**
Effect of rat polymorphonuclear leukocyte granule components on the growth and survival of *Pseudomonas aeruginosa* and *Salmonella typhimurium*
M.C. MODRZAKOWSKI, D. DOSCH-MEIER, and R.L. HODINKA 1339
- Molloy, C.**
An analysis of the metabolism and cell wall composition of *Candida albicans* during germ-tube formation
PATRICK A. SULLIVAN, CHIEW YOKE YIN, CHRISTOPHER MOLLOY, MATTHEW D. TEMPLETON, and MAXWELL G. SHEPHERD 1514
- Monib, M.**
Response of maize plants to inoculation with azospirilla and (or) straw amendment in Egypt
NABIL A. HEGAZI, MOHAMED MONIB, HUSSEIN A. AMER, and EL-SAYED SHOKR 888

- Montoya, E.**
Control of catalase and peroxidase biosynthesis by carbon source and oxygen in the yeast *Saccharomyces cerevisiae*
E. VALDIVIA, J. MARTINEZ, J.M. ORTEGA, and E. MONTOYA 1200
- Moore, A.R.**
Three new strains of infectious pancreatic necrosis virus isolated in Canada
RICHARD D. MACDONALD, ANNE R. MOORE, and BRIAN W. SOUTER 137
- Moreau, J.R.**
A new simple method of microbiological sampling of meat surfaces
J. GOULET, G. LÉVESQUE, J.R. MOREAU, and L.A. ROTH 631
- Morgan, M.K.**
Plasmids of *Pseudomonas syringae*: no evidence of a role in toxin production or pathogenicity
T.C. CURRIER and M.K. MORGAN 84
- Morita, R.Y.**
Carbon monoxide oxidation by chemolithotrophic ammonium oxidizers
RONALD D. JONES and RICHARD Y. MORITA 1545
- Morse, R.D.**
Anaerobic nitrate-dependent chemolithotrophic growth by *Rhizobium japonicum*
JOHN L. NEAL, GEORGE C. ALLEN, RONALD D. MORSE, and DALE D. WOLF 316
- Mort, A.**
2-O-Methyl-D-mannose, a key sugar in the taxonomy of *Frankia*
A. MORT, P. NORMAND, and M. LALONDE 993
- Mosse, B.**
Spore germination and hyphal growth of a vesicular-arbuscular mycorrhizal fungus, *Glomus mosseae* (Gerdemann and Trappe), under decreased oxygen and increased carbon dioxide concentrations
F. LE TACON, F.A. SKINNER, and BARBARA MOSSE 1280
- Murray, R.G.E.**
Solubilization of the surface protein of *Aquaspirillum serpens* by chaotropic agents
S.F. KOVAL and R.G.E. MURRAY 146
- Structure of the regular surface layer of *Bacillus polymyxa*
S.K. BURLEY and R.G.E. MURRAY 775
- Cell division in *Deinococcus radiodurans* and a method for displaying septa
R.G.E. MURRAY, M. HALL, and B.G. THOMPSON 1412
- Murray, W.D.**
Ethanol production by a newly isolated anaerobe. *Clostridium saccharolyticum*: effects of culture medium and growth conditions
WILLIAM D. MURRAY and A.W. KHAN 342
- Growth requirements of *Clostridium saccharolyticum*, an ethanologenic anaerobe
WILLIAM D. MURRAY and A.W. KHAN 348
- Murry, M.A.**
Nitrogenase inactivation by oxygen and enzyme turnover in *Anabaena cylindrica*
MARCIA A. MURRY, PATRICK C. HALLENBECK, DIANE ESTEVA, and JOHN R. BENEMANN 1286
- Naik, D.N.**
Fatty acid composition and primer specificity of *de novo* fatty acid synthetase in *Bacillus globisporus*, *Bacillus insolitus*, and *Bacillus psychrophilus*
TOSHI KANEDA, ELEANOR J. SMITH, and DEVARRAY N. NAIK 1634
- Nath, M.W.**
A multiple extraction-centrifugation method for the recovery of viruses from waste water treatment plant effluents and sludges
MARGARET A. LEWIS, MICHAEL W. NATH, and J.C. JOHNSON 1661
- Nawazish, M.N.**
Effect of triglycerides on the production of lipids and lipase by *Mucor hiemalis*
M. WAHEED AKHTAR, A. QAYYUM MIRZA, M. NADEEM NAWAZISH, and M.I.D. CHUGHTAI 664
- Neal, J.L.**
Anaerobic nitrate-dependent chemolithotrophic growth by *Rhizobium japonicum*
JOHN L. NEAL, GEORGE C. ALLEN, RONALD D. MORSE, and DALE D. WOLF 316
- Nelson, L.M.**
Variation in ability of *Rhizobium leguminosarum* isolates to fix dinitrogen symbiotically in the presence of ammonium nitrate
LOUISE M. NELSON 1626
- Nicholson, D.E.**
Molecular evidence for a close phylogenetic relationship among box-shaped halophilic bacteria, *Halobacterium vallismortis*, and *Halobacterium marismortui*
DIARMUID E. NICHOLSON and GEORGE E. FOX 52
- Nieto, D.J.**
Studies on mutants affecting and amidophosphoribosyltransferase activity in *Saccharomyces cerevisiae*
DANIEL J. NIETO and ROBIN A. WOODS 681
- Normand, P.**
2-O-Methyl-D-mannose, a key sugar in the taxonomy of *Frankia*
A. MORT, P. NORMAND, and M. LALONDE 993
- Norrod, E.P.**
Induced changes in the surface of *Neisseria gonorrhoeae*
E. PININA NORROD, JUDITH S. BURNHAM, ROBERT P. WILLIAMS, and MING-JER DING 584
- Novick, N.J.**
Partial purification and properties of an L-arabinose dehydrogenase from *Azospirillum brasilense*
N.J. NOVICK and M.E. TYLER 242
- Nur, I.**
Effect of *Azospirillum* inoculation on yield of field-grown wheat
YORAM KAPULNIK, SHLOMO SARIG, ISRAEL NUR, and YAACOV OKON 895
- Nurmiaho-Lassila, E.-L.**
Morphological and physiological characteristics and lipopolysaccharide composition of N₂-fixing (C₂-H₂-reducing) root-associated *Pseudomonas* sp.
KIELO HAAHELA, ILKKA HELANDER, Eeva-Liisa NURMIAHO-LASSILA, and VERONICA SUNDMAN 874

- Obeta, J.A.N.**
Production of *Bacillus sphaericus* strain 1953 primary powder on media made from locally obtainable Nigerian agricultural products
JASON A.N. OBETA and NDUKA OKAFOR 704
- O'Brien, M.**
Galactosamine inhibition of protein synthesis in *Bacteroides thetaiotaomicron*
ABIGAIL A. SALYERS, M. O'BRIEN, and S.F. KOTARSKI 1532
- Ogawa, M.**
An improved method for the preparation of mycobacterial spheroplasts and the mechanism involved in the reversion to bacillary form: electron microscopic and physiological study
TAKEZO UDOU, MIDORI OGAWA, and YASUO MIZUGUCHI 60
- O'Hara, J.**
Presence of a new cytochrome *b* - like pigment with a peak at 567 nm in various aerobic bacteria
N.J. JACOBS, J. O'HARA, and C.T. GRAY 1154
- Ohtomo, T.**
Interaction between bile acids and staphylococcal polysaccharide: inhibition of capsule formation in encapsulated mutant strains (taurine⁺, taurine⁻) of *Staphylococcus aureus*
TOSHICHIKA OHTOMO 1653
- Okafor, N.**
Production of *Bacillus sphaericus* strain 1953 primary powder on media made from locally obtainable Nigerian agricultural products
JASON A.N. OBETA and NDUKA OKAFOR 704
- Okon, Y.**
Effect of *Azospirillum* inoculation on yield of field-grown wheat
YORAM KAPULNIK, SHLOMO SARIG, ISRAEL NUR, and YAACOV OKON 895
- Olsen, P.E.**
Strain-specific serological techniques for the identification of *Rhizobium meliloti* in commercial alfalfa inoculants
P.E. OLSEN, W.A. RICE, G.W. STEMKE, and W.J. PAGE 225
- Onishi, H.**
Inactivation of nuclease H of the moderate halophile *Micrococcus varians* ssp. *halophilus* during cultivation in the presence of salting-in-type salts
MASAHIRO KAMEKURA and HIROSHI ONISHI 46
- Opremcak, L.B.**
Scanning electron microscopy of mouse ciliated oviduct and tracheal epithelium infected *in vitro* with *Bordetella pertussis*
LAUREN B. OPREMCAC and MELVIN S. RHEINS 415
- Orlowski, J.A.**
Immunochemical characterization of *Nocardia asteroides* antigens: support for a single species concept
VISWANATH P. KURUP, JAMES E. PIECHURA, EVE Y. TING, and JULIE A. ORLOWSKI 4225
- Ortega, J.M.**
Control of catalase and peroxidase biosynthesis by carbon source and oxygen in the yeast *Saccharomyces cerevisiae*
E. VALDIVIA, J. MARTINEZ, J.M. ORTEGA, and E. MONTOYA 1200
- Osborne, L.L.**
The effects of chlorinated municipal sewage and temperature on the abundance of bacteria in the Sheep River, Alberta
L.L. OSBORNE, R.W. DAVIES, R.M. VENTULLO, T.I. LADD, and J.W. COSTERTON 261
- Page, W.J.**
Strain-specific serological techniques for the identification of *Rhizobium meliloti* in commercial alfalfa inoculants
P.E. OLSEN, W.A. RICE, G.W. STEMKE, and W.J. PAGE 225
- Formation of cystlike structures by iron-limited *Azotobacter vinelandii* strain UW during prolonged storage
WILLIAM J. PAGE 1110
- Palermo, A.M.**
Isolation of round-cell mutants of *Salmonella typhimurium*
D.N. ANTÓN, A.T. DE MICHELI, and A.M. PALERMO 170
- Palmisano, A.C.**
Physiology of sea ice diatoms. II. Dark survival of three polar diatoms
ANNA C. PALMISANO and CORNELIUS W. SULLIVAN 157
- Panasenko, S.M.**
Protein and lipid methylation by methionine and S-adenosylmethionine in *Myxococcus xanthus*
SHARON M. PANASENKO 1224
- Parisot, D.**
Libération d'acides aminés et d'électrolytes par des souches de *Nectria haematococca* (Berk. & Br.) Wr. mutées pour la production de pigments
DENISE PARISOT 746
- Park, C.E.**
Effect of temperature, duration of incubation, and pH of enrichment culture on the recovery of *Campylobacter jejuni* from eviscerated market chickens
C.E. PARK, Z.K. STANKIEWICZ, J. LOVETT, J. HUNT, and D.W. FRANCIS 803
- Paster, N.**
Ochratoxin production by *Aspergillus ochraceus* as affected by methionine and structurally related compounds
N. LISKE, N. PASTER, and I. CHET 536
- The possible role of some enzymes in sclerotia formation in *Aspergillus ochraceus*
NACHMAN PASTER and ILAN CHET 718
- Patel, C.**
Linkage mapping of *Rhizobium japonicum* D211 by phage M-1 mediated transduction
KETAN SHAH, CHANDRASHEKHAR PATEL, and V.V. MODI 33
- Patel, G.B.**
Fermentation of lactose by *Bacteroides polypragmatus*
G.B. PATEL 120
- Patel, J.J.**
DNA homology, phage-typing, and cross-nodulation studies of rhizobia infecting *Galega* species
KRISTINA LINDSTRÖM, B.D.W. JARVIS, P.E. LINDSTRÖM, and J.J. PATEL 781

- Patriquin, D.G.**
Consensus paper: Sites and processes of association between diazotrophs and grasses
D.G. PATRIQUIN, J. DÖBEREINER, and D.K. JAIN 900
- Pauling, C.**
Bacteriophages of *Halobacterium halobium*: virion DNAs and proteins
GEORGE F. ROHRMANN, RICHARD CHENEY, and CRELLIN PAULING 627
- Payment, P.**
A survey of enteric viruses in domestic sewage
PIERRE PAYMENT, REDA AYACHE, and MICHEL TRUDEL 111
- Pechère, J.-C.**
Comparative study of the beta-lactamase activity found in *Achromobacter*
ROGER LEVESQUE, ROBERT LETARTE, and JEAN-CLAUDE PECHÈRE 819
- Pestka, J.J.**
An alternative pathway for 3-phosphoglycerate generation in *Veillonella*
J.J. PESTKA and E.A. DELWICHE 218
- Peterkin, P.I.**
Colony counting on hydrophobic grid-membrane filters
ANTHONY N. SHARPE, MARCEL P. DIOTTE, ISTVAN DUDAS, STEPHEN MALCOLM, and PEARL I. PETERKIN 797
- Collaborative study of the MPN, Anderson-Baird-Parker direct plating, and hydrophobic grid-membrane filter methods for the enumeration of *Escherichia coli* biotype I in foods
A.N. SHARPE, M.K. RAYMAN, D.M. BURGNER, D. CONLEY, A. LOIT, M. MILLING, P.I. PETERKIN, U. PURVIS, and S. MALCOLM 1247
- Peterson, E.A.**
Evaluation of competitive ability of *Rhizobium meliloti* strains for nodulation in alfalfa
E.A. PETERSON, J.C. SIROIS, W.B. BERNDT, and R.W. MILLER 541
- Pezet, R.**
Microcycle conidiation in pycnidial cirrhii of *Phomopsis viticola* Sacc. induced by elemental sulfur
R. PEZET, V. PONT, and F. GIRARDET 179
- Phaff, H.J.**
Heterogeneity of the yeast flora in the breeding sites of cactophilic *Drosophila*
J.S.F. BARKER, G.L. TOLL, P.D. EAST, M. MIRANDA, and H.J. PHAFF 6
- Pichia pseudocactophila**, a new species of yeast occurring in necrotic tissue of columnar cacti in the North American Sonoran Desert
DONALD L. HOLZSCHU, HERMAN J. PHAFF, JOANNE TREDICK, and DENNIS HEDGECOCK 1314
- Phillips, K.R.**
Theoretical maximum and observed product yields associated with curdian production by *Alcaligenes faecalis*
K.R. PHILLIPS and H.G. LAWFORD 1270
- Production of curdian-type polysaccharide by *Alcaligenes faecalis* in batch and continuous culture
K. RAILTON PHILLIPS, J. PIK, H.G. LAWFORD, B. LAVERS, A. KLIGERMAN, and G.R. LAWFORD 1331
- Phipps, J.**
Toxicité génétique du chlorure de méthylmercure (CH₃HgCl) sur les mitochondries de *Saccharomyces cerevisiae*
J. PHIPPS et D.R. MILLER 1149
- Phipps, P.H.**
Persistence of naturally acquired cell-mediated immunity to rubella virus during the first trimester of pregnancy
EDMOND ROSSIER, PETER H. PHIPPS, and JOHN M. WEBER 1680
- Piechura, J.E.**
Immunochemical characterization of *Nocardia asteroides* antigens: support for a single species concept
VISWANATH P. KURUP, JAMES E. PIECHURA, EVE Y. TING, and JULIE A. ORLOWSKI 425
- Pietrosanti, W.**
Respiratory activity, molar growth yields, and ATP content in an *Arthrobacter* sp. ammonium-limited chemostat culture
I. CACCIARI, D. LIPPI, S. IPPOLITI, and W. PIETROSANTI 1136
- Pik, J.**
Production of curdian-type polysaccharide by *Alcaligenes faecalis* in batch and continuous culture
K. RAILTON PHILLIPS, J. PIK, H.G. LAWFORD, B. LAVERS, A. KLIGERMAN, and G.R. LAWFORD 1331
- Pilon, D.R.**
Magnetic stimulation of polysaccharide accumulation in cultures of *Streptococcus mutans*
VINCENT W. ADAMKIEWICZ and DENIS R. PILON 464
- Pines, M.**
The regulation of sclerotium initiation in *Sclerotium rolfsii* by glucose and cyclic AMP
Y. HADAR, M. PINES, I. CHET, and Y. HENIS 21
- Poirier, T.P.**
Acid and alkaline phosphatases of *Capnocytophaga* species. I. Production and cytological localization of the enzymes
THOMAS P. POIRIER and STANLEY C. HOLT 1350
- Acid and alkaline phosphatases of *Capnocytophaga* species. II. Isolation, purification, and characterization of the enzymes from *Capnocytophaga ochracea*
THOMAS P. POIRIER and STANLEY C. HOLT 1361
- Acid and alkaline phosphatases of *Capnocytophaga* species. III. The relationship of the enzymes to the cell wall
THOMAS P. POIRIER and STANLEY C. HOLT 1369
- Pometto, A.L., III**
Metabolism of cinnamic, *p*-coumaric, and ferulic acids by *Streptomyces setonii*
JOHN B. SUTHERLAND, DON L. CRAWFORD, and ANTHONY L. POMETTO III 1253
- Pont, V.**
Microcycle conidiation in pycnidial cirrhii of *Phomopsis viticola* Sacc. induced by elemental sulfur
R. PEZET, V. PONT, and F. GIRARDET 179
- Portelance, V.**
Biochemical characterization of three mycobacterial ribosomal fractions
V. PORTELANCE and R. BEAUDET 185
- Postgate, J.**
Progress in comparative genetics of nitrogen fixation
ROBERT ROBSON, CHRISTINA KENNEDY, and JOHN POSTGATE 954

- Potter, A.A.**
FP2 plasmid curing in *Pseudomonas aeruginosa*
ANDREW A. POTTER and JOHN S. LOUITT 732
- Prasad, V.**
Competitive ability, effectiveness, and succinate — triphenyl tetrazolium chloride reductase activity of mutant strains of chick-pea (*Cicer arietinum* L.) *Rhizobium* sp.
RAMAN RAI, V. PRASAD, S.D. SHARMA, and I.C. SHUKLA 735
- Proulx, M.**
Purification of proteins similar to HPr and enzyme I from the oral bacterium *Streptococcus salivarius*. Biochemical and immunochemical properties
CHRISTIAN VADEBONCOEUR, MARIO PROULX, and LUC TRAHAN 1694
- Pueppke, S.G.**
Rhizobium infection threads in root hairs of *Glycine max* (L.) Merr., *Glycine soja* Sieb. & Zucc., and *Vigna unguiculata* (L.) Walp
STEVEN G. PUEPKE 69
- Purvis, U.**
Collaborative study of the MPN, Anderson — Baird-Parker direct plating, and hydrophobic grid-membrane filter methods for the enumeration of *Escherichia coli* biotype I in foods
A.N. SHARPE, M.K. RAYMAN, D.M. BURGNER, D. CONLEY, A. LOIT, M. MILLING, P.I. PETERKIN, U. PURVIS, and S. MALCOLM 1247
- Quiviger, B.**
Isolation and genetic analysis of *Azospirillum brasilense* Nif⁻ mutants
P. JARA, B. QUIVIGER, P. LAURENT, and C. ELMERICH 968
- Rai, R.**
Competitive ability, effectiveness, and succinate — triphenyl tetrazolium chloride reductase activity of mutant strains of chick-pea (*Cicer arietinum* L.) *Rhizobium* sp.
RAMAN RAI, V. PRASAD, S.D. SHARMA, and I.C. SHUKLA 735
- Raphael, R.A.**
Rotavirus inactivation by chemical disinfectants and antiseptics used in hospitals
S.A. SATTAR, R.A. RAPHAEL, H. LOCHNAN, and V.S. SPRINGTHORPE 1464
- Rasmussen, C.K.**
Alpha-ketoglutarate metabolism by cytochrome-containing anaerobes
DANIEL R. CALDWELL and CAROLYN K. RASMUSSEN 790
- Rayman, M.K.**
Collaborative study of the MPN, Anderson — Baird-Parker direct plating, and hydrophobic grid-membrane filter methods for the enumeration of *Escherichia coli* biotype I in foods
A.N. SHARPE, M.K. RAYMAN, D.M. BURGNER, D. CONLEY, A. LOIT, M. MILLING, P.I. PETERKIN, U. PURVIS, and S. MALCOLM 1247
- Reade, A.E.**
Investigation of white-rot fungi for the conversion of poplar into a potential feedstuff for ruminants
A.E. READE and R.E. MCQUEEN 457
- Reller, L.B.**
Effect of incubation atmosphere and temperature on isolation of *Campylobacter jejuni* from human stools
WEN-LAN L. WANG, NANCY W. LUECHTEFELD, M.J. BLASER, and L.B. RELLER 468
- Rennie, D.A.**
Consensus paper: Techniques for quantifying N₂ fixation in association with nonlegumes under field and greenhouse conditions
R.J. RENNIE and D.A. RENNIE 1022
- Rennie, R.J.**
Consensus paper: Techniques for quantifying N₂ fixation in association with nonlegumes under field and greenhouse conditions
R.J. RENNIE and D.A. RENNIE 1022
- Rheins, M.S.**
Scanning electron microscopy of mouse ciliated oviduct and tracheal epithelium infected *in vitro* with *Bordetella pertussis*
LAUREN B. OPREMACAK and MELVIN S. RHEINS 415
- Rice, W.A.**
Strain-specific serological techniques for the identification of *Rhizobium meliloti* in commercial alfalfa inoculants
P.E. OLSEN, W.A. RICE, G.W. STEMKE, and W.J. PAGE 225
- Richard, C.**
Determination of the most frequent N₂-fixing bacteria in a rice rhizosphere
R. BALLY, DANIELE THOMAS-BAUZON, TH. HEULIN, J. BALANDREAU, C. RICHARD, and J. DE LEY 881
- Ridgway, H.F.**
Subunit composition of goblet-shaped particles from the cell wall of *Flexibacter polymorphus*
H.F. RIDGWAY and R.A. LEWIN 1689
- Rigsby, W.**
A new inorganic pyrophosphate utilizing bacterium from a stagnant lake
A.K. VARMA, W. RIGSBY, and D.C. JORDAN 1470
- Riner, S.**
Production by *Bacillus subtilis* of brown sporulation-associated pigments
TERRY A. BARNETT, DAVID VALENZUELA, STEVEN RINER, and JAMES H. HAGEMAN 96
- Robbins, J.E.**
Stabilizing effect of acetate salts and HCO₃⁻ in digestors receiving high levels of glucose
J.E. ROBBINS, M.T. ARMOLD, J.E. WEIEL, and E.A. RUNQUIST 1405
- Robert, P.H.**
Effects of passaging through scarabeid hosts on virulence and host specificity of two strains of the entomopathogenic hyphomycete *Metarhizium anisopliae*
JACQUES F. FARGUES and PIERRE H. ROBERT 576
- Roberts, T.E.**
The molecular biology of infectious pancreatic necrosis virus: a review
P. DOBOS and T.E. ROBERTS 377
- Robertson, W.J.**
The relationship between three potential pathogens and pollution indicator organisms in Nova Scotian coastal waters
W.J. ROBERTSON and R.S. TOBIN 1261

- Robinson, R.W.**
The ultrastructure of sporulation in *Sporosarcina ureae*
RALPH W. ROBINSON and CHARLES R. SPOTTS 807
- Robson, R.**
Progress in comparative genetics of nitrogen fixation
ROBERT ROBSON, CHRISTINA KENNEDY, and JOHN POSTGATE 954
- Rohrmann, G.F.**
Bacteriophages of *Halobacterium halobium*: virion DNAs and proteins
GEORGE F. ROHRMANN, RICHARD CHENEY, and CRELLIN PAULING 627
- Rolfe, B.G.**
Conservation of genetic information between different *Rhizobium* species
B.D.W. JARVIS, K.F. SCOTT, J.E. HUGHES, M. DJORDJEVIC, B.G. ROLFE, and J. SHINE 200
- Rood, J.I.**
Transferable tetracycline resistance in *Clostridium perfringens* strains of porcine origin
JULIAN I. ROOD 1241
- Rosini, G.**
The occurrence of killer characters in yeasts
GIANFRANCO ROSINI 1462
- Rossier, E.**
Persistence of naturally acquired cell-mediated immunity to rubella virus during the first trimester of pregnancy
EDMOND ROSSIER, PETER H. PHIPPS, and JOHN M. WEBER 1680
- Roth, L.A.**
A new simple method of microbiological sampling of meat surfaces
J. GOULET, G. LÉVESQUE, J.R. MOREAU, and L.A. ROTH 631
- Roussard-Jacquemin, M.**
Étude ultrastructurale de la différenciation des hétérocystes chez la Cyanobactérie, *Anabaena cylindrica* Lemm
MONIQUE ROUSSARD-JACQUEMIN 1564
- Runquist, E.A.**
Stabilizing effect of acetate salts and HCO_3^- in digestors receiving high levels of glucose
J.E. ROBBINS, M.T. ARMOLD, J.E. WEIEL, and E.A. RUNQUIST 1405
- Ryan, J.A.**
Serotypes of *Neisseria meningitidis* associated with an increased incidence of meningitis cases in the Hamilton area, Ontario, during 1978 and 1979
FRASER E. ASHTON, J. ALAN RYAN, COLINA JONES, BERNARD R. BRODEUR, and BENITO B. DIENA 129
- Sabaou, N.**
Actions antibiotique, mycolytique et parasitaire de deux actinomycètes envers *Fusarium oxysporum* f.sp. *albedinis* et autres formes spéciales
NASSERDINE SABAOU, NICOLE BOUNAGA et DJILALI BOUNAGA 194
- Sacks, L.E.**
Cyclic AMP is not detectable in *Clostridium perfringens*
PETER SETLOW and L.E. SACKS 1228
- Salas, J.A.**
Pattern of protein degradation during germination of *Streptomyces antibioticus* spores
J.A. GUJARRO, J.E. SUAREZ, J.A. SALAS, and C. HARDISSON 637
- Salit, I.E.**
Effect of subinhibitory concentrations of antimicrobials on meningococcal adherence
IRVING E. SALIT 369
- Salyers, A.A.**
Galactosamine inhibition of protein synthesis in *Bacteroides thetaiotaomicron*
ABIGAIL A. SALYERS, M. O'BRIEN, and S.F. KOTARSKI 1532
- Sanderson, K.E.**
Derepression of F factor function in *Salmonella typhimurium*
KENNETH E. SANDERSON, SUNIL K. KADAM, and P.R. MACLACHLAN 1205
- Sarig, S.**
Effect of *Azospirillum* inoculation on yield of field-grown wheat
YORAM KAPULNIK, SHLOMO SARIG, ISRAEL NUR, and YAACOV OKON 895
- Sattar, S.A.**
Rotavirus inactivation by chemical disinfectants and antiseptics used in hospitals
S.A. SATTAR, R.A. RAPHAEL, H. LOCHNAN, and V.S. SPRINGTHORPE 1464
- Scherer, P.A.**
Ultrastructural investigation of 12 *Methanosarcinae* and related species grown on methanol for occurrence of polyphosphatelike inclusions
P.A. SCHERER and H.-P. BOCHEM 1190
- Schneider, E.F.**
Erratum: Structure of chitin in the cell walls of newly formed and mature conidia of *Fusarium sulphureum*
E.F. SCHNEIDER and W.L. SEAMAN 160
- Scott, K.F.**
Conservation of genetic information between different *Rhizobium* species
B.D.W. JARVIS, K.F. SCOTT, J.E. HUGHES, M. DJORDJEVIC, B.G. ROLFE, and J. SHINE 200
- Seaman, W.L.**
Erratum: Structure of chitin in the cell walls of newly formed and mature conidia of *Fusarium sulphureum*
E.F. SCHNEIDER and W.L. SEAMAN 160
- Selvaraj, G.**
Hydrogenase and ribulose-1,5-bisphosphate carboxylase activities of *Alcaligenes eutrophus* ATCC 17706 associated with an indigenous plasmid
R.M. BEHKI, G. SELVARAJ, and V.N. IYER 767
- Sen, S.**
Induction of cellulase in *Myceliophthora thermophila* D-14
SRIBER SEN, T.K. ABRAHAM, and S.L. CHAKRABARTY 1258
- Sequeira, L.**
Survival of *Pseudomonas solanacearum* in soil, rhizosphere, and plant roots
G.A. GRANADA and LUIS SEQUEIRA 433

- Setlow, P.**
Cyclic AMP is not detectable in *Clostridium perfringens*
PETER SETLOW and L.E. SACKS 1228
- Shah, K.**
Linkage mapping of *Rhizobium japonicum* D211 by phage M-1 mediated transduction
KETAN SHAH, CHANDRASHEKHAR PATEL, and V.V. MODI 33
- Shapiro, S.**
Nitrogen metabolism and chloramphenicol production in *Streptomyces venezuelae*
S. SHAPIRO and L.C. VINING 1706
- Sharma, S.D.**
Competitive ability, effectiveness, and succinate — triphenyl tetrazolium chloride reductase activity of mutant strains of chick-pea (*Cicer arietinum* L.) *Rhizobium* sp.
RAMAN RAI, V. PRASAD, S.D. SHARMA, and I.C. SHUKLA 735
- Sharpe, A.N.**
Colony counting on hydrophobic grid-membrane filters
ANTHONY N. SHARPE, MARCEL P. DIOTTE, ISTVAN DUDAS, STEPHEN MALCOLM, and PEARL I. PETERKIN 797
- Collaborative study of the MPN, Anderson-Baird-Parker direct plating, and hydrophobic grid-membrane filter methods for the enumeration of *Escherichia coli* biotype 1 in foods
A.N. SHARPE, M.K. RAYMAN, D.M. BURGNER, D. CONLEY, A. LOIT, M. MILLING, P.I. PETERKIN, U. PURVIS, and S. MALCOLM 1247
- Shaw, D.H.**
A lipopolysaccharide-specific bacteriophage for *Aeromonas salmonicida*
E.E. ISHIGURO, TERESA AINSWORTH, D.H. SHAW, W.W. KAY, and T.J. TRUST 1458
- Shen, Y.-Q.**
Studies on the ring-cyclization and ring-expansion enzymes of β -lactam biosynthesis in *Cephalosporium acremonium*
JUTTA KUPKA, Y.-Q. SHEN, SAUL WOLFE, and ARNOLD L. DEMAINE 488
- Shepherd, M.G.**
An analysis of the metabolism and cell wall composition of *Candida albicans* during germ-tube formation
PATRICK A. SULLIVAN, CHIEW YOKE YIN, CHRISTOPHER MOLLOY, MATTHEW D. TEMPLETON, and MAXWELL G. SHEPHERD 1514
- Shine, J.**
Conservation of genetic information between different *Rhizobium* species
B.D.W. JARVIS, K.F. SCOTT, J.E. HUGHES, M. DJORDJEVIC, B.G. ROLFE, and J. SHINE 200
- Shinefield, H.R.**
Competitive adherence as a mechanism of bacterial interference
DEBRA JAN BIBEL, RAZA ALY, CHARLENE BAYLES, WALTER G. STRAUSS, HENRY R. SHINEFIELD, and HOWARD I. MAIBACH 700
- Shinoda, S.**
Polyamine distribution in *Vibrionaceae*: norspermidine as a general constituent of *Vibrio* species
SHIGEO YAMAMOTO, SUMIO SHINODA, MIHO KAWAGUCHI, KYOMI WAKAMATSU, and MASAMI MAKITA 724
- Shokr, E.-S.**
Response of maize plants to inoculation with azospirilla and (or) straw amendment in Egypt
NABIL A. HEGAZI, MOHAMED MONIB, HUSSEIN A. AMER, and EL-SAYED SHOKR 888
- Shotwell, O.L.**
Intrafungal distribution of aflatoxins among conidia and sclerotia of *Aspergillus flavus* and *Aspergillus parasiticus*
D.T. WICKLOW and O.L. SHOTWELL 1
- Shukla, I.C.**
Competitive ability, effectiveness, and succinate — triphenyl tetrazolium chloride reductase activity of mutant strains of chick-pea (*Cicer arietinum* L.) *Rhizobium* sp.
RAMAN RAI, V. PRASAD, S.D. SHARMA, and I.C. SHUKLA 735
- Silver, M.**
Erratum: Effects of chromium and manganese on *Thiobacillus ferrooxidans*
CHEN WONG, MARVIN SILVER, and DONN J. KUSHNER 630
- Simidu, U.**
Distribution of heterotrophic bacteria in relation to the concentration of particulate organic matter in seawater
KIMIO FUKAMI, USIO SIMIDU, and NOBUO TAGA 570
- Simpson, W.J.**
M-type 57 group A streptococcus bacteriocin
W.J. SIMPSON and J.R. TAGG 1445
- Singh, M.**
Isolation and characterization of *Azospirillum* mutants excreting high amounts of indoleacetic acid
A. HARTMANN, MAHAVIR SINGH, and W. KLINGMÜLLER 916
- Sipiczki, M.**
Diploid protoplasts in *Schizosaccharomyces pombe*: formation, growth, and sporulation
M. SIPCZKI 593
- Sirois, J.C.**
Evaluation of competitive ability of *Rhizobium meliloti* strains for nodulation in alfalfa
E.A. PETERSON, J.C. SIROIS, W.B. BERNDT, and R.W. MILLER 541
- Skamene, E.**
Prevention of the enhancing effect of mucin and iron in mouse meningococcal infection
J.M. DUPUY, B.G. SPARKES, M. DESROSIER, E. SKAMENE, and V.V. MICUSAN 1671
- Skinner, F.A.**
Spore germination and hyphal growth of a vesicular-arbuscular mycorrhizal fungus, *Glomus mosseae* (Gerdemann and Trappe), under decreased oxygen and increased carbon dioxide concentrations
F. LE TACON, F.A. SKINNER, and BARBARA MOSSE 1280
- Smalley, D.L.**
Lectin-binding activity and antibody response with *Pseudomonas paucimobilis* and *Flavobacterium multivorum*
DAVID L. SMALLLEY and MARY E. BRADLEY 619
- Smibert, R.M.**
Albumin requirement of *Treponema denticola* and *Treponema vincentii*
KENNETH G. VAN HORN and ROBERT M. SMIBERT 1141

- Smirnov, W.A.**
Estimation du spectre de la dispersion aérienne de *Bacillus thuringiensis*
W.A. SMIRNOFF et J.R. VALÉRO 1277
- Smith, E.J.**
Fatty acid composition and primer specificity of *de novo* fatty acid synthetase in *Bacillus globisporus*, *Bacillus insolitus*, and *Bacillus psychrophilus*
TOSHI KANEDA, ELEANOR J. SMITH, and DEVARRAY N. NAIK 1634
- Smith, R.A.**
Studies on experimental murine histoplasmosis: host protection and cellular immunity
WAYNE R. BURT and RANDALL A. SMITH 102
- Söderström, B.**
Decrease in soil microbial activity and biomasses owing to nitrogen amendments
B. SÖDERSTRÖM, E. BÅÅTH, and B. LUNDGREN 1500
- Souter, B.W.**
Three new strains of infectious pancreatic necrosis virus isolated in Canada
RICHARD D. MACDONALD, ANNE R. MOORE, and BRIAN W. SOUTER 137
- Sparkes, B.G.**
Mouse immune response to meningococcal antigens
V.V. MICUSAN, J.G. BISAILLON, B.G. SPARKES, M. DESROSIERS, G. MCSWEEN, and J.M. DUPUY 1323
- Immunomodulating activity of meningococcal antigens
BRIAN G. SPARKES 1611
- Dual effect of meningococcal antigens on a T cell dependent immune response
BRIAN G. SPARKES 1619
- Prevention of the enhancing effect of mucin and iron in mouse meningococcal infection
J.M. DUPUY, B.G. SPARKES, M. DESROSIERS, E. SKAMENE, and V.V. MICUSAN 1671
- Spencer-Martins, I.**
Extracellular endodextrinase from the yeast *Lipomyces starkeyi*
E. WEBB and I. SPENCER-MARTINS 1092
- Spotts, C.R.**
The ultrastructure of sporulation in *Sporosarcina ureae*
RALPH W. ROBINSON and CHARLES R. SPOTTS 807
- Springthorpe, V.S.**
Rotavirus inactivation by chemical disinfectants and antiseptics used in hospitals
S.A. SATTAR, R.A. RAPHAEL, H. LOCHNAN, and V.S. SPRINGTHORPE 1464
- Stankiewicz, Z.K.**
Effect of temperature, duration of incubation, and pH of enrichment culture on the recovery of *Campylobacter jejuni* from eviscerated market chickens
C.E. PARK, Z.K. STANKIEWICZ, J. LOVETT, J. HUNT, and D.W. FRANCIS 803
- Stanley, P.M.**
Factors affecting the irreversible attachment of *Pseudomonas aeruginosa* to stainless steel
PATRICIA M. STANLEY 1493
- Steiner, B.**
The role of respiratory protection on increased survival of *Treponema pallidum* (Nichols) when cocultivated with mammalian cells *in vitro*
BRET STEINER, GRACE H.W. WONG, LINDA DRUMMOND, and STEPHEN GRAVES 1595
- Stemke, G.W.**
Strain-specific serological techniques for the identification of *Rhizobium meliloti* in commercial alfalfa inoculants
P.E. OLSEN, W.A. RICE, G.W. STEMKE, and W.J. PAGE 225
- Stettler, R.F.**
Phytomass production in young mixed plantations of *Alnus rubra* (Bong.) and cottonwood in western Washington
PAUL HEILMAN and R.F. STETTLE 1007
- Stevens, C.**
Characterization of N₂-fixing bacteria associated with sweet potato roots
WALTER A. HILL, PANSY BACON-HILL, STAFFORD M. CROSSMAN, and CLAUZELL STEVENS 860
- Stipanovic, R.D.**
Gliovirin, a new antibiotic from *Gliocladium virens*, and its role in the biological control of *Pythium ultimum*
CHARLES R. HOWELL and ROBERT D. STIPANOVIC 321
- Stocco, D.M.**
Cell wall proteins of *Candida albicans*
W. LAJEAN CHAFFIN and DOUGLAS M. STOCO 1438
- Stowers, M.D.**
The transport and metabolism of glucose in cowpea rhizobia
MARK D. STOWERS and GERALD H. ELKAN 398
- Straus, D.C.**
Pseudomonas aeruginosa exoproducts as pulmonary virulence factors
HOWARD A. CASH, DAVID C. STRAUS, and JOSEPH A. BASS 448
- Strauss, W.G.**
Competitive adherence as a mechanism of bacterial interference
DEBRA JAN BIBEL, RAZA ALY, CHARLENE BAYLES, WALTER G. STRAUSS, HENRY R. SHINEFIELD, and HOWARD I. MAIBACH 700
- Streeter, P.R.**
Natural immunity to murine gonococcal bacteremia: roles of complement, leucocytes, and sex
P.R. STREETER, A.C. WUNDERLICH, R.R. CORBEIL, and L.B. CORBEIL 331
- Suarez, J.E.**
Pattern of protein degradation during germination of *Streptomyces antibioticus* spores
J.A. GUIJARRO, J.E. SUAREZ, J.A. SALAS, and C. HARDISSON 637
- Subba Rao, N.S.**
Nitrogen-fixing bacteria associated with plantation and orchard plants
N.S. SUBBA RAO 863
- Sullivan, C.W.**
Physiology of sea ice diatoms. II. Dark survival of three polar diatoms
ANNA C. PALMISANO and CORNELIUS W. SULLIVAN 157

- Sullivan, P.A.**
An analysis of the metabolism and cell wall composition of *Candida albicans* during germ-tube formation
PATRICK A. SULLIVAN, CHIEW YOKE YIN, CHRISTOPHER MOLLOY, MATTHEW D. TEMPLETON, and MAXWELL G. SHEPHERD 1514
- Sundman, V.**
Morphological and physiological characteristics and lipopolysaccharide composition of N_2 -fixing (C_2 - H_2 -reducing) root-associated *Pseudomonas* sp.
KIELO HAAHTELA, ILKKA HELANDER, EEVA-LIISA NURMIAHO-LASSILA, and VERONICA SUNDMAN 874
- Sutherland, J.B.**
Metabolism of cinnamic, *p*-coumaric, and ferulic acids by *Streptomyces setonii*
JOHN B. SUTHERLAND, DON L. CRAWFORD, and ANTHONY L. POMETTO III 1253
- Sylvestre, M.**
Production of antibacterial activities by two *Bacillariophyceae* grown in dialysis culture
SAM COOPER, AVIVA BATTAT, PIERRE MARSOT, and MICHEL SYLVESTRE 338
- Tabachnik, M.**
The effect of sublethal heating on sclerotia of *Sclerotium rolfsii*
R. LIFSHTIZ, M. TABACHNIK, J. KATAN, and I. CHET 1607
- Taga, N.**
Distribution of heterotrophic bacteria in relation to the concentration of particulate organic matter in seawater
KIMIO FUKAMI, USIO SIMIDU, and NOBUO TAGA 570
- Tagg, J.R.**
M-type 57 group A streptococcus bacteriocin
W.J. SIMPSON and J.R. TAGG 1445
- Tang, S.S.**
Conditions for production of initiation protein for germination of *Clostridium perfringens* spores
RONALD G. LABBE and SHIRLEY S. TANG 829
- Taylor, A.**
Production of deoxynivalenol and related compounds in liquid culture by *Fusarium graminearum*
J.D. MILLER, A. TAYLOR, and R. GREENHALGH 1171
- Teeslink, S.D.**
Characterization of *Arthrobacter* strains isolated from the pine environment that inhibit *Fusarium moniliforme* var. *subglutinans*, the causal agent of pine pitch canker
JANE BARROWS-BROADDUS, SHARI D. TEESLINK, and THOMAS J. KERR 1382
- Templeton, M.D.**
An analysis of the metabolism and cell wall composition of *Candida albicans* during germ-tube formation
PATRICK A. SULLIVAN, CHIEW YOKE YIN, CHRISTOPHER MOLLOY, MATTHEW D. TEMPLETON, and MAXWELL G. SHEPHERD 1514
- Terenzi, H.F.**
Release of protoplasts from the galactose oxidase producing mold, *Dactylium dendroides*
DÉA AMARAL, DOROTY KUBICKI, and HECTOR F. TEREZI 763
- Tesh, M.J.**
Arginine biosynthesis in *Legionella pneumophila*: absence of *N*-acetylglutamate synthetase
MARTHA J. TESH and RICHARD D. MILLER 1230
- Thomas, D.S.**
Cytochalasin A and respiratory inhibition in the water mold *Achlya ambisexualis*
ELIAS K. MANAVATHU and D. DES S. THOMAS 15
- Thomas-Bauzon, D.**
Determination of the most frequent N_2 -fixing bacteria in a rice rhizosphere
R. BALLY, DANIELE THOMAS-BAUZON, TH. HEULIN, J. BALANDREAU, C. RICHARD, and J. DE LEY 881
- Thompson, B.G.**
Cell division in *Deinococcus radiodurans* and a method for displaying septa
R.G.E. MURRAY, M. HALL, and B.G. THOMPSON 1412
- Tibelius, K.H.**
Effect of hydrogen and oxygen on uptake-hydrogenase activity in nitrogen-fixing and ammonium-grown *Azospirillum brasilense*
KARL H. TIBELIUS and ROGER KNOWLES 1119
- Ting, E.Y.**
Immunochemical characterization of *Nocardia asteroides* antigens: support for a single species concept
VISWANATH P. KURUP, JAMES E. PIECHURA, EVE Y. TING, and JULIE A. ORLOWSKI 425
- Tobin, R.S.**
The relationship between three potential pathogens and pollution indicator organisms in Nova Scotian coastal waters
W.J. ROBERTSON and R.S. TOBIN 1261
- Toll, G.L.**
Heterogeneity of the yeast flora in the breeding sites of cactophilic *Drosophila*
J.S.F. BARKER, G.L. TOLL, P.D. EAST, M. MIRANDA, and H.J. PHAFF 6
- Toranzo, A.E.**
Mechanism of poliovirus inactivation by cell-free filtrates of marine bacteria
ALICIA E. TORANZO, JUAN L. BARJA, and FRANK M. HETRICK 1481
- Trahan, L.**
Phosphoenolpyruvate-dependent phosphorylation of α -methylglucoside in *Streptococcus sanguis* ATCC 10556
CHRISTIAN VADEBONCOEUR and LUC TRAHAN 833
- Purification of proteins similar to HPr and enzyme I from the oral bacterium *Streptococcus salivarius*. Biochemical and immunochemical properties
CHRISTIAN VADEBONCOEUR, MARIO PROULX, and LUC TRAHAN 1694
- Tredick, J.**
Pichia pseudocactophila, a new species of yeast occurring in necrotic tissue of columnar cacti in the North American Sonoran Desert
DONALD L. HOLZSCHU, HERMAN J. PHAFF, JOANNE TREDICK, and DENNIS HEDGECOCK 1314

- Trudel, M.**
A survey of enteric viruses in domestic sewage
PIERRE PAYMENT, REDA AYACHE, and MICHEL TRUDEL 111
- Trust, T.J.**
A lipopolysaccharide-specific bacteriophage for *Aeromonas salmonicida*
E.E. ISHIGURO, TERESA AINSWORTH, D.H. SHAW,
W.W. KAY, and T.J. TRUST 1458
- Tumyr, O.**
Gallionella from metalimnion in an eutrophic lake: morphology and X-ray energy-dispersive microanalysis of apical cells and stalks
MIKAL HELDAL and OLE TUMYR 303
- Turcotte, R.**
Impairment of virulence of *in vitro* subcultures of *Mycobacterium lepraemurium*
R. TURCOTTE and M. ISAUQUE 1589
- Turgeon, P.L.**
Use of rabbit mesentery in the evaluation of adherence of prototrophic and auxotrophic gonococcal strains
L.G. MATHIEU, J. DEREPENTIGNY, P.L. TURGEON, and T. GADBOIS 421
- Tyler, M.E.**
Partial purification and properties of an L-arabinose dehydrogenase from *Azospirillum brasiliense*
NORMAN J. NOVICK and MAX E. TYLER 242
- Udou, T.**
An improved method for the preparation of mycobacterial spheroplasts and the mechanism involved in the reversion to bacillary form: electron microscopic and physiological study
TAKEZO UDOU, MIDORI OGAWA, and YASUO MIZUGUCHI 60
- Upadhyaya, M.N.**
Factors affecting nitrogenase activity (C_2H_2 reduction) associated with sorghum and millet estimated using the soil core assay
S.P. WANI, P.J. DART, and M.N. UPADHYAYA 1063
- Vadeboncoeur, C.**
Phosphoenolpyruvate-dependent phosphorylation of α -methylglucoside in *Streptococcus sanguis* ATCC 10556
CHRISTIAN VADEBONCOEUR and LUC TRAHAN 833
- Purification of proteins similar to HPr and enzyme I from the oral bacterium *Streptococcus salivarius*. Biochemical and immunochemical properties
CHRISTIAN VADEBONCOEUR, MARIO PROULX, and LUC TRAHAN 1694
- Valdivia, E.**
Control of catalase and peroxidase biosynthesis by carbon source and oxygen in the yeast *Saccharomyces cerevisiae*
E. VALDIVIA, J. MARTINEZ, J.M. ORTEGA, and E. MONTOYA 1200
- Valenzuela, D.**
Production by *Bacillus subtilis* of brown sporulation-associated pigments
TERRY A. BARNETT, DAVID VALENZUELA, STEVEN RINER, and JAMES H. HAGEMAN 96
- Valéro, J.R.**
Estimation du spectre de la dispersion aérienne de *Bacillus thuringiensis*
W.A. SMIRNOFF et J.R. VALÉRO 1277
- Van Horn, K.G.**
Albumin requirement of *Treponema denticola* and *Treponema vincentii*
KENNETH G. VAN HORN and ROBERT M. SMIBERT 1141
- Varma, A.K.**
A new inorganic pyrophosphate utilizing bacterium from a stagnant lake
A.K. VARMA, W. RIGSBY, and D.C. JORDAN 1470
- Veira, D.M.**
Association of methanogenic bacteria with rumen protozoa
LEE R. KRUMHOLZ, CECIL W. FORSBERG, and DOUGLAS M. VEIRA 676
- Ventullo, R.M.**
The effects of chlorinated municipal sewage and temperature on the abundance of bacteria in the Sheep River, Alberta
L.L. OSBORNE, R.W. DAVIES, R.M. VENTULLO, T.I. LADD, and J.W. COSTERTON 261
- Victoria, R.L.**
The use of the ^{15}N isotope dilution technique to estimate the contribution of associated biological nitrogen fixation to the nitrogen nutrition of *Paspalum notatum* cv. batatais
ROBERT M. BODDEY, PHILLIP M. CHALK, REYNALDO L. VICTORIA, EIICHI MATSUI, and JOHANNA DÖBEREINER 1036
- Villoutreix, J.**
Composés stéroïques des spores d'*Anthrurus muellerianus* (Basi-diomycète)
R. HERBER, J. VILLOUTREIX, P. GRANGER et S. CHAPELLE 602
- Influence de l'anaérobiose sur la composition en stérols de *Mucor hiemalis*
R. HERBER, J. VILLOUTREIX, P. GRANGER et S. CHAPELLE 606
- Vining, L.C.**
Nutritional requirements for chloramphenicol biosynthesis in *Streptomyces venezuelae*
S. CHATTERJEE, L.C. VINING, and D.W.S. WESTLAKE 247
- Nitrogen metabolism and chloramphenicol production in *Streptomyces venezuelae*
S. SHAPIRO and L.C. VINING 1706
- Vishniac, H.S.**
An enation system for the isolation of Antarctic yeasts inhibited by conventional media
H.S. VISHNIAC 90
- Complementary DNA - 25S ribosomal RNA hybridization: an improved method for phylogenetic studies
SIYAVASH BAHARAEEN, ULRICH MELCHER, and HELEN S. VISHNIAC 546
- Vistica, C.A.**
Pathogenic and virulence characterization of colonial mutants of *Nocardia asteroides* GUH-2
CYNTHIA A. VISTICA and BLAINE L. BEAMAN 1126
- Vose, P.B.**
Plenary introductory paper: Developments in nonlegume N_2 -fixing systems
P.B. VOSE 837

Vreeland, R.H.

Relationship of the internal solute composition to the salt tolerance of *Halomonas elongata*

RUSSELL H. VREELAND, BRADLEY D. MIERAU, CAROL D. LITCHFIELD, and EUGENE L. MARTIN 407

Effects of NaCl on the uptake of α -[14 C]aminoisobutyric acid by the halotolerant bacterium *Halomonas elongata*

E.L. MARTIN, T. DURYEA-RICE, R.H. VREELAND, L. HILSABECK, and C. DAVIS 1424

Wakamatsu, K.

Polyamine distribution in *Vibrionaceae*: norspermidine as a general constituent of *Vibrio* species

SHIGEO YAMAMOTO, SUMIO SHINODA, MIHO KAWAGUCHI, KYOMI WAKAMATSU, and MASAMI MAKITA 724

Wan, D.T.F.

The outer membrane of *Haemophilus influenzae* type b: cell envelope associations of major proteins

J.W. COULTON and D.T.F. WAN 280

Wang, W.-L.L.

Effect of incubation atmosphere and temperature on isolation of *Campylobacter jejuni* from human stools

WEN-LAN L. WANG, NANCY W. LUECHTEFELD, M.J. BLASER, and L.B. RELLER 468

Wani, S.P.

Factors affecting nitrogenase activity (C_2H_2 reduction) associated with sorghum and millet estimated using the soil core assay

S.P. WANI, P.J. DART, and M.N. UPADHYAYA 1063

Warembourg, F.R.

Estimating the true cost of dinitrogen fixation by nodulated plants in undisturbed conditions

F.R. WAREMBOURG 930

Warren, R.A.J.

The pH-dependent uptake of putrescine by *Pseudomonas acidovorans* and its incorporation into bacteriophage ϕ W-14 DNA

D.L. BRUCE and R.A.J. WARREN 827

Watanabe, I.

Isolation and identification of N_2 -fixing *Pseudomonas* associated with wetland rice

W.L. BARRAQUIO, J.K. LADHA, and I. WATANABE 867

Autoradiographic technique for screening chemolithotrophic hydrogen-utilizing bacteria

T.K.S. GOWDA and I. WATANABE 1081

Isolation and identification of nitrogen-fixing *Enterobacter cloacae* and *Klebsiella planticola* associated with rice plants

J.K. LADHA, W.L. BARRAQUIO, and I. WATANABE 1301

Webb, E.

Extracellular endodextranase from the yeast *Lipomyces starkeyi*

E. WEBB and I. SPENCER-MARTINS 1092

Weber, J.M.

Adenovirus core proteins

JOSEPH M. WEBER, GOVINDRANATHSING KHITTOO, and A.RASHID BHATTI 235

Persistence of naturally acquired cell-mediated immunity to rubella virus during the first trimester of pregnancy

EDMOND ROSSIER, PETER H. PHIPPS, and JOHN M. WEBER 1680

Weiel, J.E.

Stabilizing effect of acetate salts and HCO_3^- in digestors receiving high levels of glucose

J.E. ROBBINS, M.T. ARMOLD, J.E. WEIEL, and E.A. RUNQUIST 1405

Westermann, P.

An improved method for measuring H_2 - CO_2 uptake during growth of methanogenic bacteria

BIRGITTE KIAER AHRING and PETER WESTERMANN 1218

Westlake, D.W.S.

Nutritional requirements for chloramphenicol biosynthesis in *Streptomyces venezuelae*

S. CHATTERJEE, L.C. VINING, and D.W.S. WESTLAKE 247

Microbial degradation of organic sulfur compounds in Prudhoe Bay crude oil

P.M. FEDORAK and D.W.S. WESTLAKE 291

Selective degradation of biphenyl and methylbiphenyls in crude oil by two strains of marine bacteria

P.M. FEDORAK and D.W.S. WESTLAKE 497

Effect of the dispersant Corexit 9527 on the microbial degradation of sulfur heterocycles in Prudhoe Bay oil

J.M. FOGHT, P.M. FEDORAK, and D.W.S. WESTLAKE 623

Partial purification and characterization of isopenicillin N epimerase activity from *Streptomyces clavuligerus*

SUSAN E. JENSEN, DONALD W.S. WESTLAKE, and SAUL WOLFE 1526

Wicklow, D.T.

Intrafungal distribution of aflatoxins among conidia and sclerotia of *Aspergillus flavus* and *Aspergillus parasiticus*

D.T. WICKLOW and O.L. SHOTWELL 1

Factors influencing the inhibition of aflatoxin production in corn by *Aspergillus niger*

B.W. HORN and D.T. WICKLOW 1087

Wilkins, P.O.

An electron spin resonance investigation of *Bacillus megaterium* KM spore inner and cell membranes

M.L. ELMES, P.O. WILKINS, and P.C. FITZ-JAMES 815

Wilkinson, R.G.

Subcellular location of enzymes involved in leucine dissimilation in *Clostridium bifermentans*

MARGARET L. BRITZ and RUSSELL G. WILKINSON 441

Williams, R.P.

Induced changes in the surface of *Neisseria gonorrhoeae*

E. PININA NORROD, JUDITH S. BURNHAM, ROBERT P. WILLIAMS, and MING-JER DING 584

Williams, R.T.

Effects of various physiochemical factors on microbial activity in peatlands: aerobic biodegradative processes

RICHARD T. WILLIAMS and RONALD L. CRAWFORD 1430

Wolf, D.D.

Anaerobic nitrate-dependent chemolithotrophic growth by *Rhizobium japonicum*

JOHN L. NEAL, GEORGE C. ALLEN, RONALD D. MORSE, and DALE D. WOLF 316

Wolfe, S.

Studies on the ring-cyclization and ring-expansion enzymes of β -lactam biosynthesis in *Cephalosporium acremonium*
JUTTA KUPKA, Y.-Q. SHEN, SAUL WOLFE, and
ARNOLD L. DEMAİN

488

Partial purification and characterization of isopenicillin N epimerase activity from *Streptomyces clavuligerus*

SUSAN E. JENSEN, DONALD W.S. WESTLAKE, and
SAUL WOLFE

1526

Wong, C.

Erratum: Effects of chromium and manganese on *Thiobacillus ferrooxidans*

CHEN WONG, MARVIN SILVER, and DONN J. KUSHNER

630

Wong, G.H.W.

The role of respiratory protection on increased survival of *Treponema pallidum* (Nichols) when cocultivated with mammalian cells *in vitro*

BRET STEINER, GRACE H.W. WONG, LINDA DRUMMOND,
and STEPHEN GRAVES

1595

Woods, R.A.

Studies on mutants affecting and amidophosphoribosyltransferase activity in *Saccharomyces cerevisiae*

DANIEL J. NIETO and ROBIN A. WOODS

681

Wunderlich, A.C.

Natural immunity to murine gonococcal bacteremia: roles of complement, leucocytes, and sex

P.R. STREETER, A.C. WUNDERLICH, R.R. CORBEIL, and
L.B. CORBEIL

331

Yamamoto, S.

Polyamine distribution in *Vibrionaceae*: norspermidine as a general constituent of *Vibrio* species

SHIGEO YAMAMOTO, SUMIO SHINODA, MIHO KAWAGUCHI,
KYOMI WAKAMATSU, and MASAMI MAKITA

724

Zachariah, K.

Growth responses of isolated adhesive knobs of *Dactylaria ellipsospora*

K. ZACHARIAH

1295

Zapata, F.

The methodology of measurement of N_2 fixation by nonlegumes as inferred from field experiments with legumes

M. FRIED, S.K.A. DANSO, and F. ZAPATA

1053

Zuber, M.S.

Variability of bright, greenish-yellow fluorescent particles and aflatoxin in ground blends of *Zea mays*

O.H. CALVERT, E.B. LILLEHOJ, W.F. KWOLEK,
M.S. ZUBER, and E.L. LAUVER

558

**CANADIAN JOURNAL OF MICROBIOLOGY/
JOURNAL CANADIEN DE MICROBIOLOGIE**
VOLUME 29 (1983)
SUBJECT INDEX/INDEX DES MATIERES

- Acetate ethanol fermn *Clostridium* 342
Acetate manure anaerobic digestion glucose 1405
Acetivibrio cellulolyticus cellulose fermn 1475
Acetylglutamate synthetase arginine *Legionella* 1230
Achlya respiration inhibition cytochalasin A 15
Achromobacter lactamase beta 819
Acid phosphatase *Capnocytophaga* 1361
Acid phosphatase localization *Capnocytophaga* 1350 1369
Acridine orange pos blood culture 729
Actinobacillus lipopolysaccharide macrophage perio-
dontitis 1552
Adaptation ammonium nitrate *Rhizobium* nodulation 563
Adenosylmethionine *Myxococcus* protein lipid methyl-
ation 1224
Adenovirus core protein 235
Adhesion meningococcus antibiotic 369
Adhesion *Neisseria* nutrition mesentery rabbit 421
Aeromonas lipopolysaccharide phage 55R 1 1458
Aflatoxin B1 G1 distribution *Aspergillus* 1
Aflatoxin fluorescence zea 558
Aflatoxin inhibition corn *Aspergillus* pH 1087
Agaricus adaptation peat ext 108
Agrobacterium lactose metab ketolactose 1096
Alanine *Halomonas* salt 407
Albumin *Treponema* growth 1141
Alcaligenes curdian fermn 1331
Alcaligenes curdian fermn glucose optimization 1270
Alcaligenes ribulose diphosphate carboxylase plasmid 767
Alfalfa root nodule *Rhizobium* 541
Alfalfa serol *Rhizobium* 225
Alk phosphatase *Capnocytophaga* 1361
Alk phosphatase localization *Capnocytophaga* 1350 1369
Alk phosphatase mutant *Escherichia* competition 174
Alnus cottonwood phytomass 1007
Amidophosphoribosyltransferase mutation gene ade4
Saccharomyces 681
Amino acid base auxotrophy *Neisseria* 1309
Amino acid electrolyte release *Nectria* 746
Amino acid protein *Ectothiorhodospira* 1675
Aminoisobutrate transport *Halomonas* sodium chloride 1424
Ammonium *Arthrobacter* growth respiration ATP 1136
Ammonium carbon monoxide metab bacteria 1545
Ammonium formation *Desulfovibrio* isotope fractiona-
tion 231
Ammonium *Frankia* nitrogen fixation 1003
Ammonium nitrate adaptation *Rhizobium* nodulation 563
Ammonium nitrate *Rhizobium* nitrogen fixation 1626
Ammonium nitrate soil microorganism 1500
Ampicillin metab *Escherichia coli* stin 1650
Anabaena heterocyst formation 1564
Anabaena nitrogenase inactivation turnover oxygen 1286
Anaerobic digestion manure glucose effect 1405
Anaerobiosis sterol *Mucor* 606
Anarctic yeast inhibition enation system 90
Anion nuclease H stability 46
Anthurus spore terpene sterol 602
Antibacterial prodn *Bacillariophyceae* culture 338
Antibiotic gliovirin 321
Antibiotic mycolytic parasitic *Fusarium* 194
Antibiotic *Neisseria* hemagglutinin pili protein 369
Antibiotic susceptibility *Rhizobium* nodulation compet-
ition 541
Antibody lectin binding *Pseudomonas Flavobacterium* 619
Antigen meningococcal immune response 1323
Antigen meningococcal immunomodulation 1611
Antigen meningococcus T cell 1619
Antigen *Nocardia* characterization 425
Antiseptic rotavirus SA11 inactivation 1464
App hydrogen uptake detn methanogen 1218
Aquaespirillum membrane protein solubilization 146
Arabinose dehydrogenase *Azospirillum* 242
Arginine hypoxanthine ornithine uracil *Neisseria* 421
Arginine *Legionella* acetylglutamate synthetase 1230
Armilaria DNA diploidy detn mithramycin 1179
Arthrobacter *Fusarium* pine pitch canker 1382
Arthrobacter growth respiration ATP ammonium 1136
Aspergillus aflatoxin B1 G1 distribution 1
Aspergillus ochratoxin formation methionine deriv 536
Aspergillus pH corn aflatoxin inhibition 1087
Aspergillus sclerotia formation glyoxylate cycle 718
ATP formation *Clostridium* pyrophosphate metab 1470
ATP respiration growth *Arthrobacter* ammonium 1136
Aureobasidium pullulan formation peat hydrolyzate 143
Autoradiog chemolithotrophic bacteria screening 1081
Auxotrophy *Neisseria* 1309
Azospirilla maize straw amendment 888
Azospirillum arabinose dehydrogenase 242
Azospirillum fructose metab nitrogen fixation 1213
Azospirillum hydrogenase oxygen hydrogen 1119
Azospirillum mutant 968
Azospirillum mutant IAA excretion 916
Azospirillum rhizosphere tropical plant 649
Azospirillum swarming 1592
Azospirillum wheat nitrogen fixation 924
Azospirillum wheat yield 895
Azotobacter fertilizer 973
Azotobacter iron limit growth cyst formation 1110
Bacillariophyceae culture antibacterial prodn 338
Bacillus aerial dispersion 1277
Bacillus bacteriocin 1576
Bacillus ESR spore cell membrane 815
Bacillus fatty acid compn taxonomy 1634
Bacillus pigment brown formation sporulation 96
Bacillus pigment T1 brown 309
Bacillus spore toxin 271
Bacillus surface structure 775

- Bacillus* toxicity *Plutella* larva 552
Bacillus 1593 primary powder agriculture 704
Bacteria aerobic cytochrome b pigment 1154
Bacteria anaerobic cytochrome ketoglutarate metab 790
Bacteria beech forest soil spruce 644
Bacteria cadmium metab *Mytilus* 210
Bacteria carbon monoxide metab ammonium 1545
Bacteria chemolithotrophic screening autoradiog 1081
Bacteria chemotaxis fungal propagule soil 1104
Bacteria degrading biphenyl petroleum 497
Bacteria *Gaeumannomyces* wheat ultrastructure 39
Bacteria gene *nif* review 954
Bacteria halophile phylogeny 52
Bacteria heterotrophic org matter seawater 570
Bacteria inhibition *Pseudomonas* pyocinogenic 471
Bacteria marine gram neg outer membrane 659
Bacteria marine poliovirus 1481
Bacteria marine spinae formation spinin 476
Bacteria methanogen assocn rumen protozoa 676
Bacteria methanogen gas uptake detn 1218
Bacteria nitrogen fixation 863
Bacteria nitrogen fixation rice 881
Bacteria nitrogen fixation sweet potato 860
Bacteria periodontal disease anaerobic infection 612
Bacteria rumen carbohydrate metab chetomin 1399
Bacteria sewage chlorination temp 261
Bacteria subarctic marine 527
Bacterial interference competitive adherence 700
Bacteriocin *Bacillus* 1576
Bacterioides infection *Capnocytophaga* succinate forma-
tion 612
Bacteroides carboxymethylcellulase 504
Bacteroides ferment lactose 120
Bacteroides ketoglutarate metab 790
Bacteroides membrane carboxymethylcellulase 710
Bacteroides phenylacetate formation phenylalanine 1184
Bacteroides serogroup phenylacetate taxonomy 276
Base amino acid auxotrophy *Neisseria* 1309
Beech forest soil spruce bacteria 644
Bicarbonate manure anaerobic digestion glucose 1405
Bile acid polysaccharide interaction *Stephylococcus* 1653
Biodegrading peatland microorganism ecol 1430
Biodegrading petroleum sulfur heterocycle dispersant 623
Biodegrading sulfur heterocycle microbe seawater 291
Biphenyl degrading petroleum bacteria 497
Blood culture stain 729
Bordetella oviduct trachea 415
Brevibacterium protein formation galactosamine 1532
Butyrivibrio ketoglutarate metab 790
Cactophilic *Drosophila* yeast flora heterogeneity 6
Cactus columnar necrosis *Pichia* 1314
Cadmium metab *Mytilus* bacteria 210
Calcium *Halomonas* salt 407
Calculator probability estn 621
cAMP absence *Clostridium* 1228
cAMP sclerotium initiation 21
Campylobacter enrichment culture chicken 803
Campylobacter incubation temp human waste 468
Candida cell wall protein 1438
Candida metab germ tube formation 1514
Capnocytophaga acid alk phosphatase 1361
Capnocytophaga phosphatase acid alk localization 1350 1369
Capnocytophaga succinate formation *Bacterioides* infec-
tion 612
Carbohydrate metab enzyme *Rhizobium* 398
Carbohydrate metab rumen bacteria chetomin 1399
Carbohydrate *Neisseria* surface cysteine cystine 584
Carbohydrate protein goblet *Flexibacter* 1689
Carbon dioxide spore germination *Glomus* 1280
Carbon dioxide uptake detn methanogen 1218
Carbon metab peatland microorganism oxygen 1430
Carbon monoxide metab ammonium bacteria 1545
Carbon oxygen *Saccharomyces* catalase peroxidase 1200
Carbon *Skeletonema* 1235
Carboxylase ribulose diphosphate plasmid *Alcaligenes* 767
Carboxymethylcellulase *Bacteroides* 504
Carboxymethylcellulase *Bacteroides* membrane 710
Carboxymethylcellulase *Sporotrichum* 1071
Catalase mammal cell *Treponema* oxygen toxicity 1595
Catalase peroxidase *Saccharomyces* carbon oxygen 1200
Catechol deoxygenase *Streptomyces* 1253
Catechol metab *Streptomyces* 142
Cation nuclease H stability 46
cDNA rRNA 25S hybridization evolution 546
Cell division bacteria spinae development 476
Cell division *Deinococcus* 1412
Cell division *Skeletonema* dialysis 1235
Cell envelope protein *Haemophilus* 280
Cell mammal catalase *Treponema* oxygen toxicity 1595
Cell membrane *Bacillus* ESR spore 815
Cell membrane pigment hyperprodn *Nectria* 746
Cell wall *Candida* development 1514
Cell wall *Capnocytophaga* phosphatase 1369
Cell wall conidia chitin *Fusarium* correction 161
Cell wall degrading beta glucanase 163
Cell wall metab *Sclerotium* morphogenesis 21
Cell wall protein *Candida* 1438
Cellulase carboxymethyl *Bacteroides* 504
Cellulase carboxymethyl *Bacteroides* membrane 710
Cellulase induction *Myceliophthora* lactose metab 1258
Cellulase *Sporotrichum* 1071
Cellulose *Clostridium* ethanol formation 348
Cellulose ferment methane manuf 1475
Centrifugation virus detn wastewater sludge 1661
Cephalosporium isopenicillin N synthetase 488
Cephalosporium spheroplast reprodn 1539
Chaotropic agent membrane protein solubilization 146
Chemolithotrophic bacteria screening autoradiog 1081
Chemostat competition alk phosphatase mutant 174
Chemotaxis bacteria fungal propagule soil 1104
Chetomin rumen bacteria carbohydrate metab 1399
Chicken *Campylobacter* enrichment culture 803
Chitin cell wall conidia *Fusarium* correction 161
Chloramphenicol ferment *Streptomyces* 247
Chloramphenicol *Streptomyces* nitrogen metab 1706
Chlorination temp bacteria sewage 261
Chlorophyll *Skeletonema* 1235
Chromosome integration provirus 354
Cinnamate coumarate ferulate metab *Streptomyces* 1253
Climate tropical fecal coliform pollution 689
Clostridium cAMP absence 1228
Clostridium ethanol ferment 342
Clostridium ethanol formation cellulose hemicellulose 348
Clostridium leucine dissimilation metab enzyme 441
Clostridium pyrophosphate metab ATP formation 1470
Clostridium spore germination initiation protein 829
Clostridium tetracycline resistance transfer conjugation 1241
Clover yellow mosaic virus RNA 151

- Coculture methane manuf cellulose fermn 1475
 Cold Nectria membrane 746
 Coliform fecal pollution tropical climate 689
 Colistin *Escherichia* ampicillin metab 1650
 Colony counting hydrophobic grid membrane filter 797
 Columnar cactus necrosis *Pichia* 1314
 Competition *Escherichia* alk phosphatase mutant 174
 Competitive adherence bacterial interference 700
 Complement leucocyte sex murine gonococcus 331
 Conidia cell wall chitin *Fusarium* correction 161
 Conidiation microcycle *Phomopsis* 179
 Conjugation *Clostridium* tetracycline resistance trans=fer 1241
 Conjugation plasmid pRMB1 *Alcaligenes* 767
 Corexit effect heterosulfur biodegrdn petroleum 623
 Corn aflatoxin inhibition *Aspergillus* pH 1087
 Correction chitin cell wall conidia *Fusarium* 161
 Correction iron ore leaching *thiobacillus* 630
 Correction review electron microscopy microbiol 1234
Corynebacterium fatty acid compn nutrition 364
 Cottonwood *Alnus* phytomass 1007
 Coumarate cinnamate ferulate metab *Streptomyces* 1253
 Culture *Bacillariophyceae* antibacterial prodn 338
 Curdian fermn *Alcaligenes* 1331
 Curdian fermn glucose *Alcaligenes* optimization 1270
 Cyanide hydrogen formation *Pseudomonas* oxygen 1344
 Cyst formation *Azotobacter* iron limit growth 1110
 Cysteine cystine *Neisseria* surface carbohydrate 584
 Cystine cysteine *Neisseria* surface carbohydrate 584
 Cytochalasin A respiration inhibition *Achlya* 15
 Cytochrome b pigment aerobic bacteria 1154
 Cytochrome bacteria anaerobic ketoglutarate metab 790
Dactylaria adhesive knob 1295
Dactylum protoplast release 763
 Deacetoxycephalosporin C synthetase *Cephalosporium* 488
 Decarboxylase leucine *Clostridium* 441
 Degrdn biphenyl petroleum bacteria 497
 Dehydrogenase arabinose *Azospirillum* 242
 Dehydrogenase glutamate *Streptomyces* chloramphenicol 1706
Deinococcus cell division 1412
 Deoxygenase catechol protocatechuate *Streptomyces* 1253
 Deoxyglucose phosphorylation *Streptococcus* 833
 Deoxyvalenol fermn *Fusarium* 1171
 Desulfovibrio cellulose fermn methane 1475
 Desulfovibrio nitrate redn isotope fractionation 231
 Development bacteria spinae cell division 476
 Development *Candida* cell wall 1514
 Development *Estigmene* *Tipula* iridescent virus 254
 Dextranase *Lipomyces* 1092
 Diaminopropane *Vibrio* norspermidine formation 724
 Diatom sea ice physiol 157
 Diazotroph grass 900
Dictyostelium spore germination RNA formation 1390
 Digitonin *Nectria* membrane 746
 Diploid protoplast *Schizosaccharomyces* spore 593
 Diploidy DNA *Armillaria* detn mithramycin 1179
 Disease periodontal bacteria anaerobic infection 612
 Disinfectant *Pseudomonas* contamination 1715
 Disinfectant rotavirus SA11 inactivation 1464
 Dispersant sulfur heterocycle petroleum biodegrdn 623
 DNA *Armillaria* diploidy detn mithramycin 1179
 DNA formation *Tipula* iridescent virus 254
 DNA homol *Rhizobium* 200
 DNA homol *Rhizobium* *Galega* 781
 DNA integration reticuloendotheliosis assoc virus 354
 DNA phage phiW14 putrescinylnthymine labeling 827
 DNA protein phage *Halobacterium* 627
Drosophila cactophilic yeast flora heterogeneity 6
 Ecol microorganism biodegrdn peatland 1430
 Ecosystem forest nitrogen fixation review 979
 Ectothiorhodospira protein amino acid 1675
 Electrolyte amino acid release *Nectria* 746
 Electron microscope phase contrast fungus 1642
 Electron microscopy microbiol review correction 1234
 Enation system *Anarctic* yeast inhibition 90
 Endodextranase *Lipomyces* 1092
 Energy metab *Clostridium* polyphosphate 1470
 Enteric virus sewage 111
 Enterobacter rice nitrogen fixation 1301
 Entner Doudoroff pathway *Rhizobium* 398
 Enzyme carbohydrate metab *Rhizobium* 398
 Enzyme glyoxylate cycle sclerotia formation 718
 Enzyme I sugar phosphotransferase *Streptococcus* 1694
 Enzyme leucine dissimilation metab *Clostridium* 441
 Enzyme phosphoglycerate formation *Veillonella* 218
 Enzyme *Streptomyces* chloramphenicol 1706
 Epidemic *Samonella* 1583
 Epimerase isopenicillin N *Streptomyces* 1526
Escherichia alk phosphatase mutant competition 174
Escherichia ampicillin metab colistin 1650
Escherichia division mutant 694
Escherichia food enumeration 1247
 ESR spore cell membrane *Bacillus* 815
Estigmene *Tipula* iridescent virus development 254
 Ethanol fermn *Clostridium* 342
 Ethanol formation *Clostridium* cellulose hemicellulose 348
 Euryheterotrophic bacteria 527
 Evolution *Aspergillus* aflatoxin 1
 Evolution *Halobacterium* 5S rRNA 52
 Evolution rRNA 25S cDNA hybridization 546
 Exocellobiohydrolase *Sporotrichum* 1071
 Extn virus detn wastewater sludge 1661
 Fatty acid compn *Bacillus* taxonomy 1634
 Fatty acid compn *Corynebacterium* nutrition 364
 Fatty acid *Nocardia* mutant pathogenicity 1126
 Fecal coliform pollution tropical climate 689
 Feed poplar white rot fungus 457
 Fermn cellulose methane manuf 1475
 Fertilizer *Azotobacter* 973
 Fertilizer nitrogen soil microorganism 1500
 Ferulate cinnamate coumarate metab *Streptomyces* 1253
 Filter hydrophobic grid membrane colony counting 797
 Flavobacterium *Pseudomonas* lectin binding antibody 619
 Flexibacter goblet protein carbohydrate 1689
 Fluorescence aflatoxin *zea* 558
 Fluorotryptophan resistance *Azospirillum* IAA excretion 916
 Fomes lignocellulose metab 1683
 Food *Escherichia* enumeration 1247
 Food preservative *Staphylococcus* 297
 Forest ecosystem nitrogen fixation review 979
 Forest soil beech spruce bacteria 644
 Fox rabies virus 77
 FP2 plasmid *Pseudomonas* 732
 Frankia methylmannose taxonomy 993
 Frankia nitrogenase formation methionine sulfoximine 1003
 Fructose metab *Azospirillum* nitrogen fixation 1213
 Fungal propagule soil bacteria chemotaxis 1104
 Fungus phase contrast electron microscope 1642

- Fungus propagule microorganism 1487
 Fungus structure microscopy 653
 Fungus white rot poplar feed 457
 Fusarium antibiotic mycolytic parasitic 194
 Fusarium Arthrobaacter pine pitch canker 1382
 Fusarium deoxynivalenol fermn 1171
 Fusarubin formation Nectria 746
 Gaemannomyces ultrastructure wheat bacteria 39
 Galactosamine Brevibacterium protein formation 1532
 Galactose oxidase Dactylium 763
 Galega Rhizobium DNA homol 781
 Galionella stalk iron 303
 Gardnerella vaginal smear immunofluorescence 27
 Gas uptake detn methanogen bacteria 1218
 Gene ade4 mutation amidophosphoribosyltransferase Saccharomyces 681
 Gene nif Klebsiella review 954
 Gene nitrogen fixation conservation Rhizobium 200
 Gene thymidine kinase herpes mRNA 385
 Genetics nitrogen fixation review 954
 Genetics plant 945
 Germ tube formation Candida metab 1514
 Germination spore Glomus macromol formation 596
 Germination spore initiation protein Clostridium 829
 Germination spore Streptomyces protein degrdn 637
 Gliocladium gliovirin Pythium control 321
 Gliovirin Gliocladium Pythium control 321
 Glomus spore germination carbon dioxide oxygen 1280
 Glomus spore germination macromol formation 596
 Glucan beta degrdn glucanase isoenzyme 163
 Glucanase beta cell wall degrdn 163
 Glucanase beta glucosidase excretion Trichoderma 163
 Gluconobacter nitrophenol glycerol growth 288
 Glucose Alcaligenes curdian fermn optimization 1270
 Glucose effect manure anaerobic digestion 1405
 Glucose metab pullulan formation 143
 Glucose sclerotium initiation 21
 Glucose transport metab Rhizobium cowpea 398
 Glucosidase beta excretion Trichoderma glucanase 163
 Glutamate Halomonas salt 407
 Glutamate synthase Frankia 1003
 Glutamine synthetase Frankia 1003
 Glycerol growth Gluconobacter nitrophenol 288
 Glycine Rhizobium 69
 Glycolysis Rhizobium 398
 Glyoxylate cycle sclerotia formation Aspergillus 718
 Goblet Flexibacter protein carbohydrate 1689
 Gonococcal bacteremia murine natural immunity 331
 Gram neg marine bacteria outer membrane 659
 Gram pos blood culture 729
 Grass diazotroph 900
 Growth medium photoproduct toxicity Salmonella 670
 Haemophilus protein outer membrane 280
 Halobacterium phage DNA protein 627
 Halobacterium 5S rRNA taxonomy evolution 52
 Halomonas aminoisobutyrate transport sodium chloride 1424
 Halomonas sodium chloride tolerance 407
 Heat nitrogenase Nostoc 938
 Heat Sclerotium 1607
 Hemagglutinin Neisseria antibiotic 369
 Hemicellulose Clostridium ethanol formation 348
 Herpes simplex virus thymidine kinase 385
 Heterocycle sulfur petroleum microbial degrdn 291
 Heterocyst formation Anabaena 1564
 Heterogeneity flora yeast cactophilic Drosophila 6
 Heterotrophic bacteria org matter seawater 570
 Hh1 phage DNA protein 627
 Hh2 phage DNA protein 627
 Histoplasmosis murine host cell immunity 102
 Host cell immunity murine histoplasmosis 102
 HPr protein sugar phosphotransferase Streptococcus 1694
 Human waste Campylobacter incubation temp 468
 Hyaluronidase Treponema pathogenicity 1507
 Hydrogen Azospirillum hydrogenase oxygen 1119
 Hydrogen Bacteroides fermn lactose 120
 Hydrogen cyanide formation Pseudomonas oxygen 1344
 Hydrogen ethanol fermn Clostridium 342
 Hydrogen metab Pseudomonas nitrogen fixation 867
 Hydrogen uptake Alcaligenes plasmid 767
 Hydrogen uptake detn methanogen app 1218
 Hydrogen uptake Rhizobium oxygen nitrate 316
 Hydrogen utilizing bacteria screening 1081
 Hydrogenase Alcaligenes plasmid 767
 Hydrogenase Azospirillum oxygen hydrogen 1119
 Hydrophobic grid membrane filter colony counting 797
 Hydroxylase phenol Streptomyces 142
 Hydroxyurea Tipula iridescent virus 254
 Hypoxanthine arginine ornithine uracil Neisseria 421
 IAA excretion Azospirillum mutant 916
 Immune response meningococcal antigen 1323
 Immunity natural rubella virus pregnancy 1680
 Immunogen Mycobacteria ribosome polysaccharide 185
 Immunomodulation meningococcal antigen 1611
 Inclusion polyphosphate Methanosarcina methanol 1190
 Incubation temp Campylobacter human waste 468
 Infection Bacterioides Capnocytophaga succinate forma-
 tion 612
 Infection meningococcus reticuloendothelial system iron 1671
 Infectious pancreatic necrosis virus review 377
 Infectious pancreatic necrosis virus 137
 Iron Galionella stalk 303
 Iron limit growth Azotobacter cyst formation 1110
 Iron ore leaching thiobacillus correction 630
 Iron reticuloendothelial system meningococcus infection 1671
 Iron Rhizobium mutation 735
 Isoenzyme beta glucanase glucan degrdn 163
 Isopenicillin N epimerase Streptomyces 1526
 Isopenicillin N synthetase Cephalosporium 488
 Isotope fractionation nitrate redn Desulfovibrio 231
 Ketoglutarate metab Bacteroides Butyrivibrio Seleno-
 monas 790
 Ketolactose Agrobacterium lactose metab 1096
 Kinase thymidine fragment herpes mutant 385
 Klebsiella rice nitrogen fixation 1301
 Klebsiella gene nif review 954
 Lactamase beta Achromobacter 819
 Lactate chloramphenicol fermn Streptomyces 247
 Lactose fermn Bacteroides 120
 Lactose metab Agrobacterium ketolactose 1096
 Lactose metab Myceliophthora cellulase induction 1258
 Leaching iron ore thiobacillus correction 630
 Lectin binding antibody Pseudomonas Flavobacterium 619
 Legionella arginine acetylglutamate synthetase 1230
 Leucine dissimilation metab enzyme Clostridium 441
 Leukocyte granule Pseudomonas Salmonella 1339
 Leukocyte complement sex murine gonococcus 331
 Lice symbiote migration 755
 Lignin metab Fomes 1683
 Lignocellulose metab Fomes 1683

- Linkage mapping *Rhizobium* phageM1 33
 Lipase lipid formation *Mucor* triglyceride 664
 Lipid A *Aeromonas* phage receptor 1458
 Lipid formation inhibition *Glomus* germination 596
 Lipid lipase formation *Mucor* triglyceride 664
 Lipid methylation *Myxococcus* 1224
 Lipomyces endodextranase 1092
 Lipopolysaccharide *Actinobacillus* macrophage perio-
 dontitis 1552
 Lipopolysaccharide *Aeromonas* phage 55R 1 1458
 Lipopolysaccharide nitrogen fixation *Pseudomonas*
 874
 Macromol formation *Glomus* spore germination 596
 Macrophage *Actinobacillus* lipopolysaccharide perio-
 dontitis 1552
 Magnetic field polysaccharide accumulation *Strepto-*
coccus 464
 Maize azospirilla straw amendment 888
 Mammal cell catalase *Treponema* oxygen toxicity
 1595
 Mammalian cell *Salmonella* 1731
 Manure anaerobic digestion glucose effect 1405
 Mapping linkage *Rhizobium* phageM1 33
 Marine bacteria gram neg outer membrane 659
 Marine bacteria poliovirus 1481
 Marine pollution pathogen 1261
 Marine subarctic bacteria 527
 Meat spoilage microflora 1220
 Meat surface microbiol sampling 631
 Membrane carboxymethylcellulase *Bacteroides* 710
 Membrane *Nectria* cold digitonin nystatin 746
 Membrane outer compn *Neisseria* nutrition 584
 Membrane outer gram neg marine bacteria 659
 Membrane outer protein *Haemophilus* 280
 Membrane protein solubilization *Aquaspirillum* 146
 Meningococcal antigen immune response 1323
 Meningococcal antigen immunomodulation 1611
 Meningococcus adhesion antibiotic 369
 Meningococcus antigen T cell 1619
 Meningococcus infection reticuloendothelial system
 iron 1671
 Mesentery rabbit adhesion *Neisseria* nutrition 421
 Metab *Clostridium* 348
 Metarhizium scarabeid virulence host specificity 576
 Methane formation rumen bacteria 676
 Methane manuf cellulose fermn 1475
 Methanobrevibacter cellulose fermn methane 1475
 Methanogen bacteria gas uptake detn 1218
 Methanol *Methanosarcinae* polyphosphate inclusion
 1190
Methanosarcina barkeri cellulose fermn 1475
Methanosarcinae polyphosphate inclusion methanol
 1190
 Methionine deriv ochratoxin formation *Aspergillus*
 536
 Methionine *Myxococcus* protein lipid methylation
 1224
 Methionine sulfoximine *Frankia* nitrogenase formation
 1003
 Methylation protein lipid *Myxococcus* 1224
 Methylene blue blood culture 729
 Methylglucoside phosphorylation phosphoenolpyruvate
 dependent *Streptococcus* 833
 Methylmannose *Frankia* taxonomy 993
 Methylmercury mutation *Saccharomyces* 1149
 Microbial degradn sulfur heterocycle petroleum 291
 Microbiol assocn 851
 Microbiol sampling meat surface 631
 Micrococcus nuclease H formation salt 46
 Microflora meat spoilage 1220
 Microorganism ecol biodegradn peatland 1430
 Microorganism propagule fungus 1487
 Microorganism soil nitrogen fertilizer 1500
 Microscopy fungus structure 653
 Millet nitrogenase soil core assay 1063
 Mitochondria cytochalasin A 15
 mRNA spinin stability marine *Pseudomonas* 476
 mRNA thymidine kinase herpes 385
 Mucin iron reticuloendothelial function *Neisseria*
 1671
Mucor lipid lipase formation triglyceride 664
Mucor sterol anaerobiosis 606
 Murine gonococcal bacteremia natural immunity 331
 Murine histoplasmosis host cell immunity 102
 Mutant *Azospirillum* 968
 Mutant division *Escherichia* 694
 Mutant round cell *Salmonella* 170
 Mutation gene *ade4* amidophosphoribosyltransferase
Saccharomyces 681
 Mutation methylmercury *Saccharomyces* 1149
 Mutation *Rhizobium* iron nitrogenase nodulation 735
 Myceliophthora cellulase induction lactose metab
 1258
 Mycobacteria ribosome polysaccharide immunogen
 185
 Mycobacterium spheroplast reversion 60
 Mycobacterium virulence 1589
 Mycolytic antibiotic parasitic *Fusarium* 194
 Mytilus cadmium metab bacteria 210
 Myxococcus protein lipid methylation 1224
 Natural immunity murine gonococcal bacteremia 331
 Necrosis columnar cactus *Pichia* 1314
Nectria amino acid electrolyte release 746
Neisseria amino acid base auxotrophy 1309
Neisseria antibiotic hemagglutinin pili protein 369
Neisseria carbohydrate surface cysteine cystine 584
Neisseria nutrition adhesion mesentery rabbit 421
Neisseria serotype 129
 Neurosis virus pancreatic infectious 137
 Nitrate hydrogen uptake *Rhizobium* 316
 Nitrate redn *Desulfovibrio* isotope fractionation 231
 Nitrobacter serotype nutrition org growth 394
 Nitrogen fertilizer soil microorganism 1500
 Nitrogen fixation ammonium nitrate *Rhizobium* 1626
 Nitrogen fixation bacteria 863
 Nitrogen fixation bacteria rice 881
 Nitrogen fixation bacteria sweet potato 860
 Nitrogen fixation *Ceanothus* 1014
 Nitrogen fixation cost 930
 Nitrogen fixation detn 1022 1046
 Nitrogen fixation detn methodol 1053
 Nitrogen fixation *Enterobacter* *Klebsiella* rice 1301
 Nitrogen fixation forest ecosystem review 979
 Nitrogen fixation *Frankia* methionine sulfoximine
 1003
 Nitrogen fixation fructose metab *Azospirillum* 1213
 Nitrogen fixation genetics review 954
 Nitrogen fixation nonlegume 837
 Nitrogen fixation *Nostoc* nitrogenase snowmelt 938
 Nitrogen fixation *Paspalum* 1036
 Nitrogen fixation *Pseudomonas* lipopolysaccharide
 874
 Nitrogen fixation *Pseudomonas* rice 867
 Nitrogen fixation *Rhizobium* gene conservation 200
 Nitrogen fixation *Rhizobium* mutant 735
 Nitrogen fixation *Rhizobium* nodulation 541
 Nitrogen fixation wheat *Azospirillum* 924
 Nitrogen isotope fractionation *Desulfovibrio* 231
 Nitrogen metab *Streptomyces* chloramphenicol 1706
 Nitrogen *Skeletonema* 1235
 Nitrogenase formation *Frankia* methionine sulfoximine
 1003
 Nitrogenase inactivation turnover oxygen *Anabaena*
 1286

- Nitrogenase Nostoc snowmelt nitrogen fixation 938
 Nitrogenase Rhizobium mutation 735
 Nitrogenase Rhizobium root nodule alfalfa 541
 Nitrogenase soil core assay 1063
 Nitrophenol Gluconobacter glycerol growth 288
 Nitrosococcus carbon monoxide metab ammonium 1545
 Nitrosomonas carbon monoxide metab ammonium 1545
 Nitrous oxide formation Rhizobium 316
 Nocardia antigen characterization 425
 Nocardia mutant fatty acid pathogenicity 1126
 Nodulation Galega Rhizobium 781
 Nodulation gene conservation Rhizobium 200
 Nodulation Rhizobium ammonium nitrate adaptation 563
 Nodulation Rhizobium competition antibiotic susceptibility 541
 Nodulation Rhizobium mutation 735
 Norspermidine formation Vibrio diaminopropane 724
 Nostoc nitrogenase snowmelt nitrogen fixation 938
 Nuclease H formation Micrococcus salt 46
 Nutrition Clostridium 348
 Nutrition Corynebacterium fatty acid compn 364
 Nutrition Neisseria adhesion mesentery rabbit 421
 Nutrition Neisseria auxotrophy 1309
 Nutrition Neisseria outer membrane compn 584
 Nutrition org Nitrobacter serotype growth 394
 Nutrition sporidesmium growth sporulation 325
 Nystatin Nectria membrane 746
 Ochratoxin formation Aspergillus methionine deriv 536
 Oil spill dispersant effect biodegrdn 623
 Oleate Treponema growth 1141
 Oligotrophic bacteria 527
 Optimization curdlan fermn Alcaligenes glucose 1270
 Ornithine hypoxanthine uracil Neisseria 421
 Osmotic pressure Halomonas 407
 Oviduct trachea Bordetella 415
 Oxygen Azospirillum hydrogenase hydrogen 1119
 Oxygen carbon metab peatland microorganism 1430
 Oxygen carbon Saccharomyces catalase peroxidase 1200
 Oxygen hydrogen uptake Rhizobium 316
 Oxygen nitrogenase inactivation turnover Anabaena 1286
 Oxygen Pseudomonas hydrogen cyanide formation 1344
 Oxygen spore germination Glomus 1280
 Oxygen toxicity Treponema catalase mammal cell 1595
 Pancreatic neurosis virus infectious 137
 Parasitic antibiotic mycolytic Fusarium 194
 Paspalum nitrogen fixation 1036
 Pathogen toxin Pseudomonas plasmid 84
 Peat ext Agaricus adaptation 108
 Peat hydrolyzate Aureobasidium pullulan formation 143
 Peatland microorganism ecol biodegrdn 1430
 Periodontal disease bacteria anaerobic infection 612
 Periodontitis Actinobacillus lipopolysaccharide macrophage 1552
 Peroxidase catalase Saccharomyces carbon oxygen 1200
 Petroleum biphenyl degrdn bacteria 497
 Petroleum sulfur heterocycle biodegrdn dispersant 623
 Petroleum sulfur heterocycle microbial degrdn 291
 Phase Hh1 Hh2 DNA protein 627
 Phase phiW14 DNA putrescinythymine labeling 827
 Phase 55R 1 Aeromonas lipopolysaccharide 1458
 PhaseM1 linkage mapping Rhizobium 33
 Phase contrast electron microscope fungus 1642
 Phenol metab Streptomyces 142
 Phenylacetate Bacteroides serogroup taxonomy 276
 Phenylacetate formation Bacteroides phenylalanine 1184
 Phenylalanine Bacteroides phenylacetate formation 1184
 PhiW14 phage DNA putrescinythymine labeling 827
 Phomopsis sporulation sulfur phosphorylation respiration 179
 Phosphatase acid alk Capnocytophaga 1361
 Phosphatase acid alk localization Capnocytophaga 1350 1369
 Phosphatase alk mutant Escherichia competition 174
 Phosphatidylglycerophosphate synthase Saccharomyces 1452
 Phosphoenolpyruvate dependent methylglucoside phosphorylation Streptococcus 833
 Phosphoenolpyruvate glucose phosphotransferase Streptococcus mutant 833
 Phosphoglycerate formation Veillonella 218
 Phosphorylation methylglucoside phosphoenolpyruvate dependent Streptococcus 833
 Phosphorylation Phomopsis sulfur 179
 Phosphotransferase phosphoenolpyruvate glucose Streptococcus mutant 833
 Phosphotransferase sugar enzyme I HPr Streptococcus 1694
 Photobacterium norspermidine 724
 Photoproduct growth medium toxicity Salmonella 670
 Physiol sea ice diatom 157
 Phytomass Alnus cottonwood 1007
 Pichia columnar cactus necrosis 1314
 Pigment brown formation Bacillus sporulation 96
 Pigment cytochrome b aerobic bacteria 1154
 Pigment hyperprodn Nectria cell membrane 746
 Pigment T1 brown Bacillus 309
 Pili Neisseria antibiotic 369
 Pine pitch canker Arthrobacter Fusarium 1382
 Plant genetics 945
 Plant soil rhizosphere Pseudomonas 433
 Plasmid F derepression Salmonella 1205
 Plasmid FP2 Pseudomonas 732
 Plasmid pRMB1 conjugation Alcaligenes 767
 Plasmid Pseudomonas toxin pathogen 84
 Plasmid Rhizobium 1601
 Plutella larva Bacillus toxicity 552
 Pneumonia Pseudomonas virulence factor 448
 Poliovirus bacteria marine 1481
 Poliovirus detn wastewater sludge 1661
 Pollution fecal coliform tropical climate 689
 Pollution marine pathogen 1261
 Pollution seawater petroleum heterosulfur biodegrdn 291
 Polyadenylate RNA plant virus 151
 Polyamine Vibrio taxonomy 724
 Polyphosphate inclusion Methanosarcinae methanol 1190
 Polysaccharide accumulation Streptococcus magnetic field 464
 Polysaccharide bile acid interaction Stepheilococcus 1653
 Polysaccharide ribosome Mycobacteria immunogen 185
 Poplar white rot fungus feed 457
 Potato sweet nitrogen fixation bacteria 860
 Pregnancy rubella virus natural immunity 1680
 Propagule microorganism fungus 1487
 Protease Streptomyces spore germination 637
 Protein amino acid Ecotthiorhodospira 1675
 Protein Bacteroides fermn lactose 120
 Protein Candida cell wall 1438

- Protein carbohydrate goblet *Flexibacter* 1689
 Protein core adenovirus 235
 Protein degradn spore germination *Streptomyces* 637
 Protein DNA phage *Halobacterium* 627
 Protein formation *Brevibacterium galactosamine* 1532
 Protein formation inhibition *Glomus* germination 596
 Protein HPr sugar phosphotransferase *Streptococcus* 1694
 Protein initiation spore germination *Clostridium* 829
 Protein membrane solubilization *Aquaspirillum* 146
 Protein methylation *Myxococcus* 1224
 Protein *Neisseria* antibiotic 369
 Protein outer membrane *Haemophilus* 280
 Protocatechuate deoxygenase *Streptomyces* 1253
 Protoheme formation ketoglutarate anaerobe bacteria 790
 Protoplast diploid *Schizosaccharomyces* spore 593
 Protoplast release *Dactylium* 763
 Protozoa rumen assocn methanogen bacteria 676
Pseudomonas contamination disinfectant 1715
Pseudomonas Flavobacterium lectin binding antibody 619
Pseudomonas FP2 plasmid 732
Pseudomonas hydrogen cyanide formation oxygen 1344
Pseudomonas leukocyte granule 1339
Pseudomonas marine mRNA spinin stability 476
Pseudomonas nitrogen fixation lipopolysaccharide 874
Pseudomonas nitrogen fixation rice 867
Pseudomonas plasmid toxin pathogen 84
Pseudomonas putrescine transport pH 827
Pseudomonas pyocinogenic bacteria inhibition 471
Pseudomonas soil rhizosphere plant 433
Pseudomonas stainless steel 1493
Pseudomonas virulence factor pneumonia 448
 Pullulan formation *Aureobasidium* peat hydrolyzate 143
 Putrescine transport *Pseudomonas* pH 827
 Putrescinylnthymine DNA phage phiW14 labeling 827
 Pyocinogenic *Pseudomonas* bacteria inhibition 471
 Pyrophosphate metab *Clostridium* ATP formation 1470
 Pythium control gliovirin *Gliocladium* 321
 Rabbit mesentery adhesion *Neisseria* nutrition 421
 Rabies fox virus 77
 Receptor lipid A *Aeromonas* phage 1458
 Reductase leucine *Clostridium* 441
 Reductase succinate triphenyltetrazolium chloride *Rhizobium* 735
 Respiration *Achlya* inhibition cytochalasin A 15
 Respiration ATP growth *Arthrobacter ammonium* 1136
 Respiration *Phomopsis* sulfur 179
 Respiration soil nitrogen fertilizer 1500
 Reticuloendothelial system iron meningococcus infection 1671
 Reticuloendotheliosis assocd virus integration DNA 354
 Review electron microscopy microbiol correction 1234
 Review infectious pancreatic necrosis virus 377
 Review nitrogen fixation forest ecosystem 979
 Review nitrogen fixation genetics 954
Rhizobium alfalfa serol 225
Rhizobium characterization 518
Rhizobium cowpea glucose transport metab 398
Rhizobium DNA homol *Galega* 781
Rhizobium *Glycine* *Vigna* 69
Rhizobium hydrogen uptake oxygen nitrate 316
Rhizobium linkage mapping phageM1 33
Rhizobium mutation iron nitrogenase nodulation 735
Rhizobium nitrogen fixation ammonium nitrate 1626
Rhizobium nitrogen fixation gene conservation 200
Rhizobium nodulation ammonium nitrate adaptation 563
Rhizobium nodulation competition antibiotic susceptibility 541
Rhizobium plasmid 1601
 Rhizosphere *Azospirillum* tropical plant 649
 Rhizosphere soil plant *Pseudomonas* 433
 Ribosome polysaccharide *Mycobacteria* immunogen 185
 Ribulose diphosphate carboxylase plasmid *Alcaligenes* 767
 Rice nitrogen fixation bacteria 881
 Rice *Pseudomonas* nitrogen fixation 867
 Rice root bacteria screening 1081
 RNA clover yellow mosaic virus 151
 RNA formation inhibition *Glomus* germination 596
 RNA formation spore germination *Dictyostelium* 1390
 Root nodule alfalfa *Rhizobium* 541
 Root rice bacteria screening 1081
 Rotavirus SA11 inactivation antiseptic disinfectant 1464
 Round cell mutation *Salmonella* 170
 rRNA 25S cDNA hybridization evolution 546
 rRNA 5S *Halobacterium* taxonomy evolution 52
 Rubella virus natural immunity pregnancy 1680
 Rumen bacteria carbohydrate metab chetomin 1399
 Rumen protozoa assocn methanogen bacteria 676
 Ruminant feed poplar 457
 Saccharomyces amidophosphoribosyltransferase mutation gene ade4 681
 Saccharomyces catalase peroxidase carbon oxygen 1200
 Saccharomyces methylmercury mutation 1149
 Saccharomyces phosphatidylglycerophosphate synthase 1452
Salmonella growth medium photoproduct toxicity 670
Salmonella leukocyte granule 1339
Salmonella mammalian cell 1731
Salmonella plasmid F derepression 1205
Salmonella round cell mutation 170
 Salt *Halomonas* alanine calcium glutamate 407
 Salt nuclease H formation *Micrococcus* 46
Salmonella epidemic 1583
 Sampling microbiol meat surface 631
 Scarabeid virulence host specificity *Metarhizium* 576
Schizosaccharomyces spore diploid protoplast 593
 Sclerotia formation *Aspergillus* glyoxylate cycle 718
 Sclerotium heat 1607
 Sclerotium initiation cAMP glucose 21
 Seawater heterotrophic bacteria org matter 570
 Seawater microbe biodegradn sulfur heterocycle 291
Selenomonas ketoglutarate metab 790
 Serol *Rhizobium* alfalfa 225
 Serotype *Neisseria* 129
 Sewage chlorination temp bacteria 261
 Sewage virus enteric 111
Skeletonema carbon nitrogen chlorophyll dialysis 1235
 Sludge wastewater treatment virus detn 1661
 Sodium chloride *Halomonas* aminoisobutrate transport 1424
 Sodium chloride tolerance *Halomonas* 407
 Soil forest beech spruce bacteria 644
 Soil microorganism nitrogen fertilizer 1500
 Soil rhizosphere plant *Pseudomonas* 433
 Solubilization protein membrane *Aquaspirillum* 146
 Sorghum nitrogenase soil core assay 1063
 Spheroplast reprodn *Cephalosporium* 1539
 Spheroplast reversion *Mycobacterium* 60
 Spinax formation marine bacteria spinin 476
 Spinin marine bacteria spinax formation 476
 Spoilage meat microflora 1220

- Spore *Anthurus* terpene sterol 602
 Spore *Bacillus* ESR cell membrane 815
 Spore *Bacillus* toxin 271
 Spore germination *Dictyostelium* RNA formation 1390
 Spore germination *Glomus* carbon dioxide oxygen 1280
 Spore germination *Glomus* macromol formation 596
 Spore germination initiation protein *Clostridium* 829
 Spore germination *Phomopsis* 179
 Spore germination *Streptomyces* protein degrdn 637
 Spore *Schizosaccharomyces* diploid protoplast 593
 Spore *Sporidesmium* 325
Sporidesmium nutrition growth sporulation 325
Sporosarcina sporulation ultrastructure 807
Sporotrichum cellulase 1071
 Sporulation *Bacillus* pigment brown formation 96
 Sporulation *Clostridium* mutant initiation protein 829
 Sporulation *Phomopsis* sulfur phosphorylation respiration 179
 Sporulation *sporidesmium* nutrition growth 325
 Sporulation *Sporosarcina* ultrastructure 807
 Spruce beech forest soil bacteria 644
 Stainless steel *Pseudomonas* 1493
Staphylococcus food preservative 297
 Steel stainless *Pseudomonas* 1493
Stenoheterotrophic bacteria 527
Streptococcus polysaccharide bile acid interaction 1653
 Sterol *Anthurus* spore 602
 Sterol *Mucor* anaerobiosis 606
 Straw amendment maize azospirilla 888
Streptococcus bacteriocin 1445
Streptococcus phosphoenolpyruvate glucose phosphotransferase 833
Streptococcus polysaccharide accumulation magnetic field 464
Streptococcus sugar phosphotransferase enzyme I HPr 1694
Streptomyces chloramphenicol fernm 247
Streptomyces chloramphenicol nitrogen metab 1706
Streptomyces cinnamate coumarate ferulate metab 1253
Streptomyces isopenicillin N epimerase 1526
Streptomyces spore germination protein degrdn 637
 Succinate formation *Capnocytophaga* infection *Bacteroides* 612
 Succinate triphenyltetrazolium chloride reductase *Rhizobium* 735
 Sugar phosphotransferase enzyme I HPr *Streptococcus* 1694
 Sulfur heterocycle petroleum biodegrdn dispersant 623
 Sulfur heterocycle petroleum microbial degrdn 291
 Sulfur *Phomopsis* sporulation phosphorylation respiration 179
 Swarming *Azospirillum* 1592
 Sweet potato nitrogen fixation bacteria 860
 Symbiote migration lice 755
 Synthase glutamate *Frankia* 1003
 Synthase glutamate *Streptomyces* chloramphenicol 1706
 Synthase phosphatidylglycerophosphate *Saccharomyces* 1452
 Synthetase fatty acid *Bacillus* 1634
 Synthetase glutamine *Frankia* 1003
 Synthetase isopenicillin N *Cephalosporium* 488
 T cell meningococcus antigen 1619
 Taxonomy *Bacillus* fatty acid compn 1634
 Taxonomy *Bacteroides* serogroup phenylacetate 276
 Taxonomy *Frankia* methylmannose 993
 Taxonomy *Halobacterium* 5S rRNA 52
 Taxonomy *Vibrio* polyamine 724
 Temp chlorination bacteria sewage 261
 Temp incubation *Campylobacter* human waste 468
 Terpene sterol *Anthurus* spore 602
 Tetracycline resistance transfer conjugation *Clostridium* 1241
 Thermocin 10 *Bacillus* 1576
 Thiamin pyrophosphate *Treponema* growth 1141
Thiobacillus iron ore leaching correction 630
Thiobacillus isolation characterization 1159
 Thymidine kinase fragment herpes mutant 385
Tipula iridescent virus DNA formation 254
 Toxicity *Bacillus* *Plutella* larva 552
 Toxin *Bacillus* spore 271
 Toxin pathogen *Pseudomonas* plasmid 84
 Trachea oviduct *Bordetella* 415
 Transformation reticuloendotheliosis virus 354
 Transport aminoisobutrate *Halomonas* sodium chloride 1424
 Transport glucose metab *Rhizobium* cowpea 398
 Transport putrescine *Pseudomonas* pH 827
Treponema growth albumin 1141
Treponema hyaluronidase pathogenicity 1507
Treponema oxygen toxicity catalase mammal cell 1595
 Tricarboxylate cycle *Rhizobium* 398
Trichoderma beta glucosidase excretion glucanase 163
 Triglyceride *Mucor* lipid lipase formation 664
 Triphenyltetrazolium chloride reductase *Rhizobium* 735
 Ultrastructure *Gaeumannomyces* wheat bacteria 39
 Ultrastructure sporulation *Sporosarcina* 807
 Uracil arginine hypoxanthine ornithine *Neisseria* 421
 Urease rumen bacteria protozoa 676
 Vaginal Gardnerella smear immunofluorescence 27
 Veillonella phosphoglycerate formation 218
Vibrio norspermidine formation diaminopropane 724
Vibrionaceae polyamine distribution 724
Vigna *Rhizobium* 69
 Viricide rotavirus SA11 1464
 Virulence factor *Pseudomonas* pneumonia 448
 Virulence host specificity *Metarhizium* scarabeid 576
 Virulence *Mycobacterium* 1589
 Virus adeno core protein 235
 Virus clover yellow mosaic RNA 151
 Virus detn wastewater sludge 1661
 Virus enteric sewage 111
 Virus fox rabies 77
 Virus herpes simplex thymidine kinase 385
 Virus infectious pancreatic necrosis review 377
 Virus pancreatic neurosis infectious 137
 Virus reticuloendotheliosis assoc integration DNA 354
 Virus rota SA11 inactivation disinfectant 1464
 Virus rubella natural immunity pregnancy 1680
 Virus *Tipula* iridescent DNA formation 254
 Wheat *Azospirillum* nitrogen fixation 924
 Wheat *Gaeumannomyces* ultrastructure bacteria 39
 Wheat yield *Azospirillum* 895
 White rot fungus poplar feed 457
 Yeast *Anarctic* inhibition enation system 90
 Yeast flora heterogeneity eactophilic *Drosophila* 6
 Yeast killer character 1462
 Yeast rRNA 25S evolution 546
 Zea aflatoxin fluorescence 558

